



## E7900 Series

ASM, ASM Auto Deadbolt Mortises &  
Cylindrical Models 2 3/8" and 2 3/4" Backset

## Installation instructions

KD10114-E-1122

EN

dormakaba 

# Table of Contents

03	1. Introduction and Disclaimers	21	5.5. E-Plex Setup (Aurora)
04	2. Checklist and Exploded Views	21	5.5.1. Master PIN and Master Credential (Aurora)
04	2.1. Parts and Tools List	21	5.5.2. Defining a Person Type (Aurora)
05	2.2. ASM	21	5.5.3. Adding Users (Aurora)
06	2.3. Autodeadbolt - ASM Inside Trim Assembly	22	5.5.4. Assigning Credentials to Users (Aurora)
06	2.4. ASM, 79T Toggle Mode (For Cylindrical, see Appendix B)	22	5.5.5. Adding Locks (Aurora)
07	2.5. Autodeadbolt - ASM Inside Trim Assembly for 79T (Toggle Mode)	23	5.5.6. Creating an E-Plex Door Group (Aurora)
07	2.6. Cylindrical Unit and Inside Trim Assembly for 79M Standard Mode (see Appendix B)	23	5.5.7. Schedules (Aurora)
07	2.7. Inside Trim Assembly 79T Toggle Mode Cylindrical	24	5.5.8. Assigning Schedules to Doors (Aurora)
08	3. Installation of ASM Models	24	5.5.9. Creating the Programming File (Aurora)
08	3.1. Check the Mortise Handing	24	5.6. Additional Topics for Wireless Setup
09	3.2. Install the Strike	25	5.6.1. Adding and Configuring a Gateway (Aurora)
10	3.3. Install the Mortise	25	5.6.2. Joining an E-Plex Gateway as a Router (Aurora)
11	3.4. Install the Outside Housing & Inside Trim Assembly Without Key Override	26	5.6.3. E-Plex Server Certificate Setup (Aurora)
13	4. Lock Testing E-760 / 770 / 79 Series only	26	5.6.4. Assigning E-Plex Locks to a Gateway (Aurora)
15	5. Programming and Software Setup	26	5.6.5. Joining a Lock to a Gateway (Aurora)
15	5.1. Overview	28	5.7. M-Unit for Offline Lock Setup
17	5.2. LUNA Installation and Setup	28	5.7.1. About the M-Unit
17	5.2.1. Downloading the LUNA Software	28	5.7.2. Transferring the Program File to the M-Unit
17	5.2.2. LUNA Software Installation	28	5.7.3. Programming E-Plex Locks
17	5.2.3. Opening LUNA for the First Time	28	5.7.4. Transferring the Program File to the Lock
17	5.2.4. Changing your Password (LUNA)	29	5.7.5. M-Unit Audits
18	5.3. E-Plex Offline Setup (LUNA)	29	5.7.6. Auditing an E-Plex 7900 Lock
18	5.3.1. Master PIN and Master Credential (LUNA)	30	5.7.7. Viewing Audits (LUNA)
18	5.3.2. Adding Users (LUNA)	31	5.7.8. Viewing Audits (Aurora)
18	5.3.3. Assigning Credentials to Users (LUNA)	31	5.8. M-Unit Tools for Wireless Lock Setup
19	5.3.4. Adding Locks (LUNA)	31	5.8.1. Site Survey
19	5.3.5. Creating an E-Plex Door Group (LUNA)	31	5.8.2. Site Survey Guidelines
19	5.3.6. Schedules (LUNA)	32	5.8.3. Gateway Configuration for Site Survey - Join On Mode
19	5.3.7. Programming E-Plex Locks (LUNA)	32	5.8.4. Scan Network
19	5.3.8. Creating the Program File (LUNA)	33	5.8.5. Ping Network
19	5.3.9. Transferring files Using the M-Unit (LUNA)	34	5.8.6. Diagnosing an E-Plex 7900 Lock
20	5.4. Aurora Installation and Setup	42	6. Operating the Electronic Override
20	5.4.1. Aurora Software Installation	42	7. Installing of Mechanical Override Model
20	5.4.2. Opening Aurora for the First Time	42	Appendix
20	5.4.3. Changing your Password (Aurora)	43	A Mortise Models
		43	A.1. Reversing the Mortise Handing
		45	A.1.1. Reversible ASM
		45	A.2. Additional Steps for ASM Office
		46	A.3. Additional Steps for ASM Storeroom
		46	B Installing Cylindrical Models
		46	B.1. Install the Strike
		47	B.2. Install the Latch
		47	B.3. Install the Cylindrical Unit
		48	B.4. Inside Trim Assembly
		48	B.5. Install Outside Housing & Trim Assembly

# 1 Introduction and disclaimers

## IMPORTANT

Please read and follow all directions carefully.

### Target Audience

These instructions are designed for use by maintenance professionals or lock installers who are familiar with common safety practices and competent to perform the steps described. dormakaba is not responsible for damage or malfunction due to incorrect installation however arising.

### Definition of Terms

In these instructions, the term ASM refers to American Standard Mortise, and ADB refers to Autodeadbolt Mortise.

### Technical Assistance

For technical assistance, call:

E7900 Support with Enterprise software: 800.849.8324

E7900 Support with Aurora or LUNA software

For US or Canada only: 888.539.7226

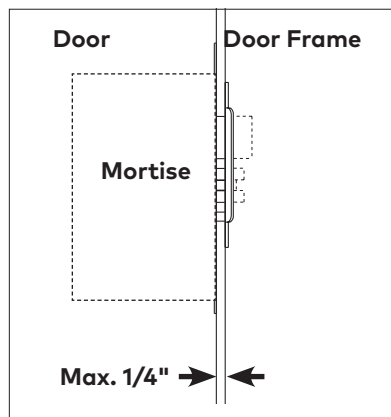
Outside of US or Canada: 905.430.7226

## IMPORTANT

Carefully inspect windows, doorframe, door, etc. to ensure that the recommended procedures will not cause damage. dormakaba standard warranty does not cover damages caused by installation.

For all mortise models the gap between the mortise front plate and the strike must not exceed 1/4 "

## IMPORTANT



## CAUTION

Wear safety glasses when making the holes.

## 2 Checklist and Exploded Views

### 2.1 Parts and Tools List

Each lockset includes:

(A) Outside lever handle

(or)

Parts for mechanical override model only:

(A1) Outside lever handle

(A2) Cylinder plug

(A3) Cylinder (locks with key cylinder)

(A4) Cylinder cap (locks with key cylinder)

(B) Outside housing

(C2) Torx-head screw (E900) (see hardware

bag)

(D) Mortise (ASM only shipped assembled with faceplate and 2 x 8-32 x 1/4" screws)

(or)

Parts for cylindrical models (see illustrations in appendix B):

cylindrical latch (see B2 page 46)

cylindrical unit assembled with one pair of screws & 3 spacers

four (4) other pairs of screws & 3 spacers in hardware bag

additional extension spring

storeroom function locking screw and nut

(E3) Inside trim E-7900(N)

Parts inside hardware bag:

(F) Spindle E7900

(G) Square spindle

(C2) Torx-head screw (E7900)

(I) 3 x mounting screws (10-24, 1/8 Hex Head) or (12-24, 1/8" Hex Head for recent models only)

(J) 2 Machined screws (12-24X 1/2" Philips) & 2 wood screws (#12 X 1" Philips)

(K) Strike kit (screws, strike and ASM or Cylindrical dustbox)

(L) 1 extension spring

(M) Parts required to control thumbturn motion (ASM and ASM Office) See appendix A2 & A3

(Q1) 4 pairs of Flat Head Screws 10-24 (for cylindrical only)

(R1) 3 Spacers (for cylindrical only)

(S) 3 spacers (see page 31) for recent Models only

(V) 2 x battery cover screws (4-40, 1/2 Torx Head)

(W) 1 Torx key (T10)

Tools Required:

- Safety glasses
- 1/2" (13mm) chisel
- 1/8" (3mm) drill bit
- 1/2" (13mm) drill bit
- 3/4" (19mm) drill bit
- 1" drill bit or hole saw
- 3/32" drill bit (Cylindrical only)
- 1/8" Hexagonal key (Allen key)
- Drill
- Awl or center punch
- 2 1/8" (54mm) hole saw (Cylindrical Only)
- Hammer Rubber mallet
- Small flat screwdriver
- Torx screwdriver (T-15)
- Phillips screwdriver (#2)
- Fine steel file
- Mortising machine
- Router
- Mortise faceplate router template
- Adjustable square
- Tape measure
- Pencil
- Tape
- Cleaning supplies (drop cloth, vacuum)

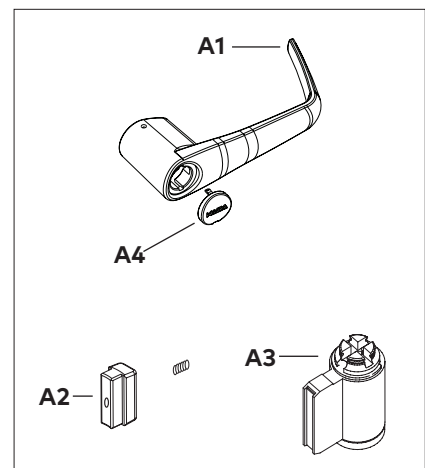
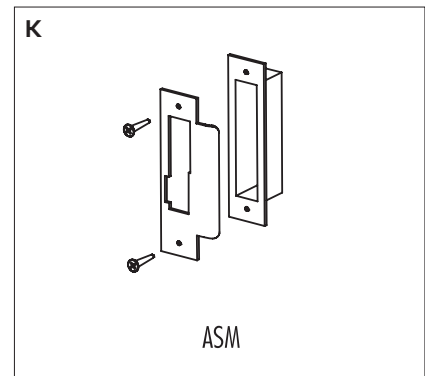
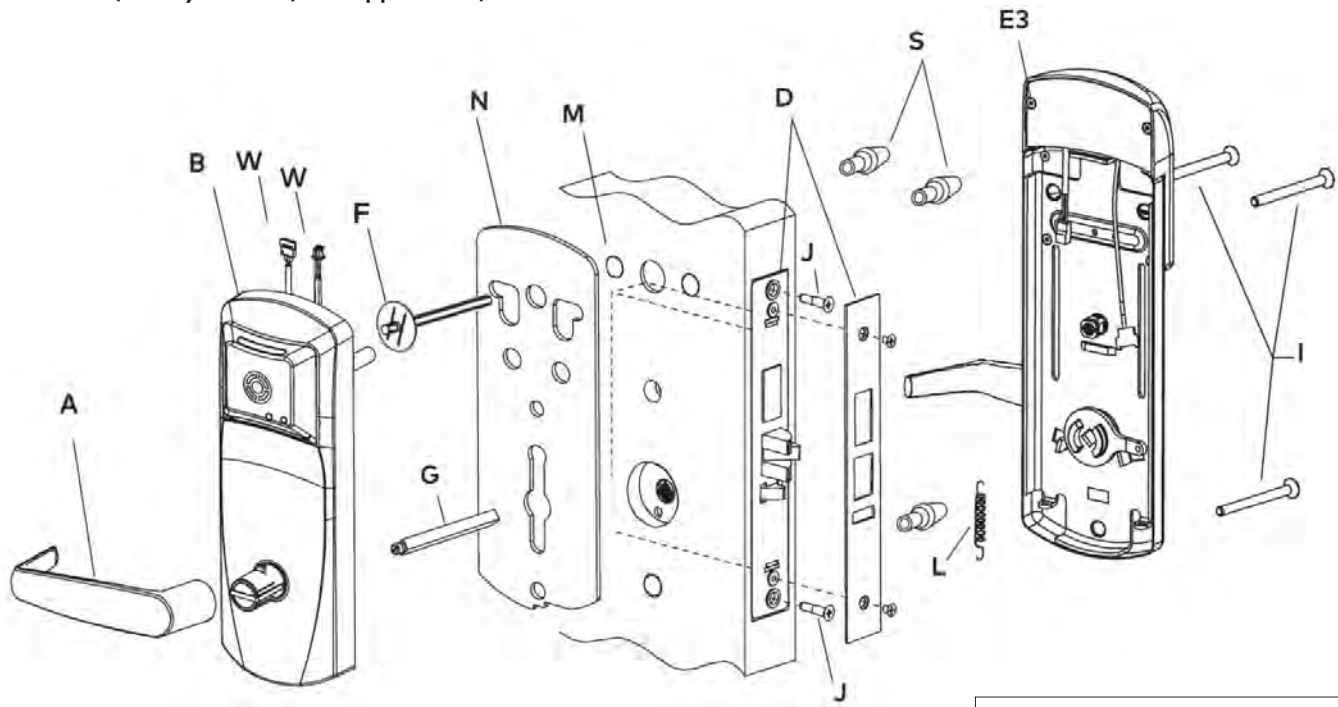
### IMPORTANT

For doors more than 2 1/2" thick upto 3 3/4", order the appropriate hardware bag to receive the correct length of spindles and mounting screws. Part# 062-510189-XXX; (XXX = choice of finish).

For E7900 series, Gasket 033-512017-1 comes standard for outdoor installations.

# 2 Checklist and Exploded Views

## 2.2 ASM (For Cylindrical, see Appendix B)



**Note:** D - American Standard Mortise illustrated.

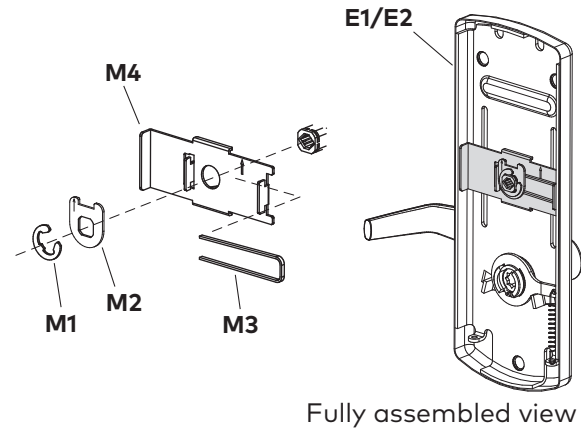
## 2 Checklist and Exploded Views

### 2.3 Autodeadbolt ASM Inside Trim Assembly

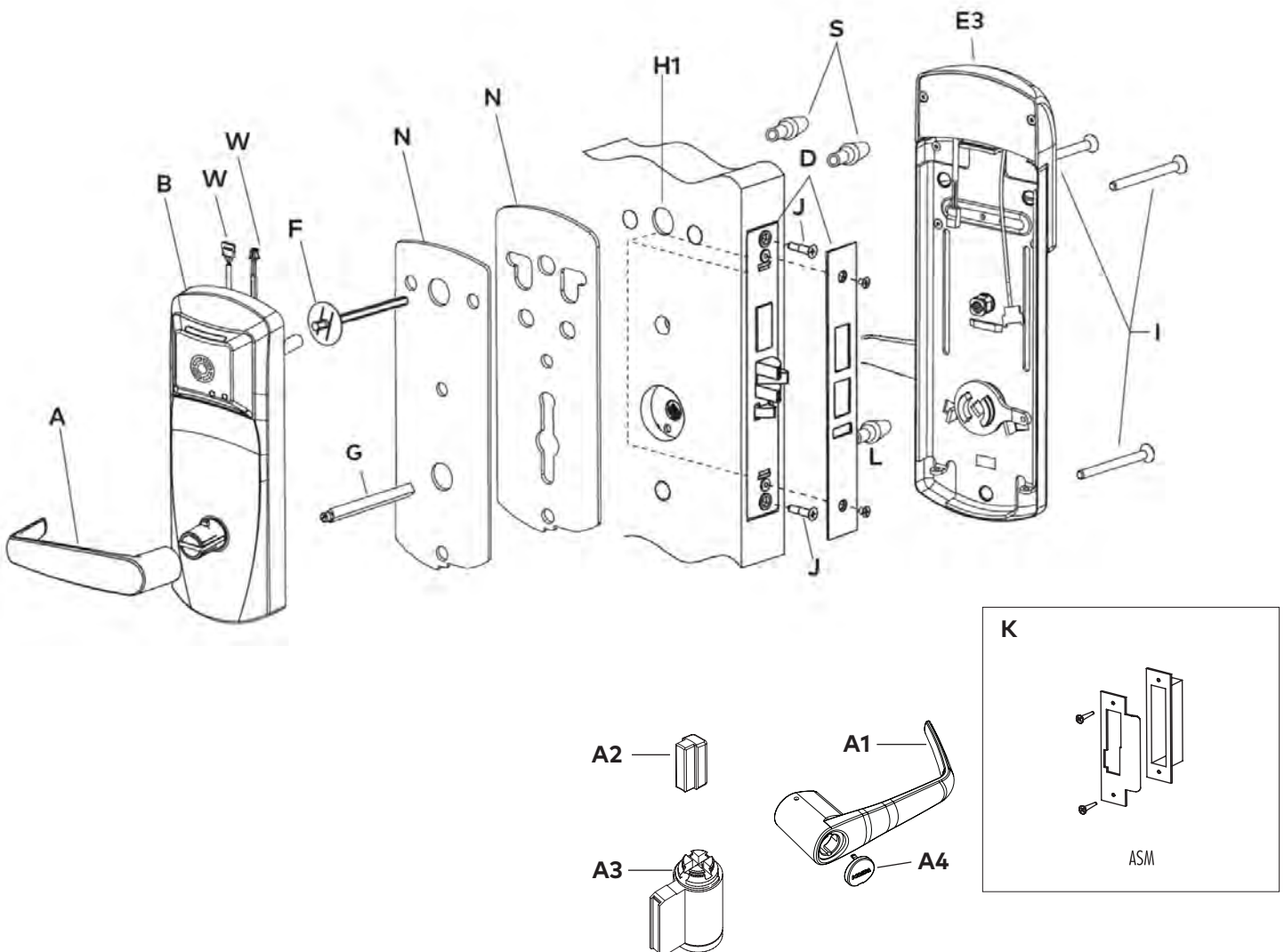
**NOTE:** The inside trim assembly (E1), (E2) and (E3) for auto-deadbolt models includes the parts (M1 TO M4) shown, assembled at the factory.

For **ASM Office** and **ASM Store-room** models, only some of the parts (M) are used. See instructions in **Appendix A.2** and **A.3**.

Parts (M) also available separately (kit #062-510484) to convert the standard lock to Autodeadbolt ASM, ASM Office or ASM Storeroom functions.



### 2.4 ASM, 79T Toggle Mode (For cylindrical, see appendix B and section 2.7).



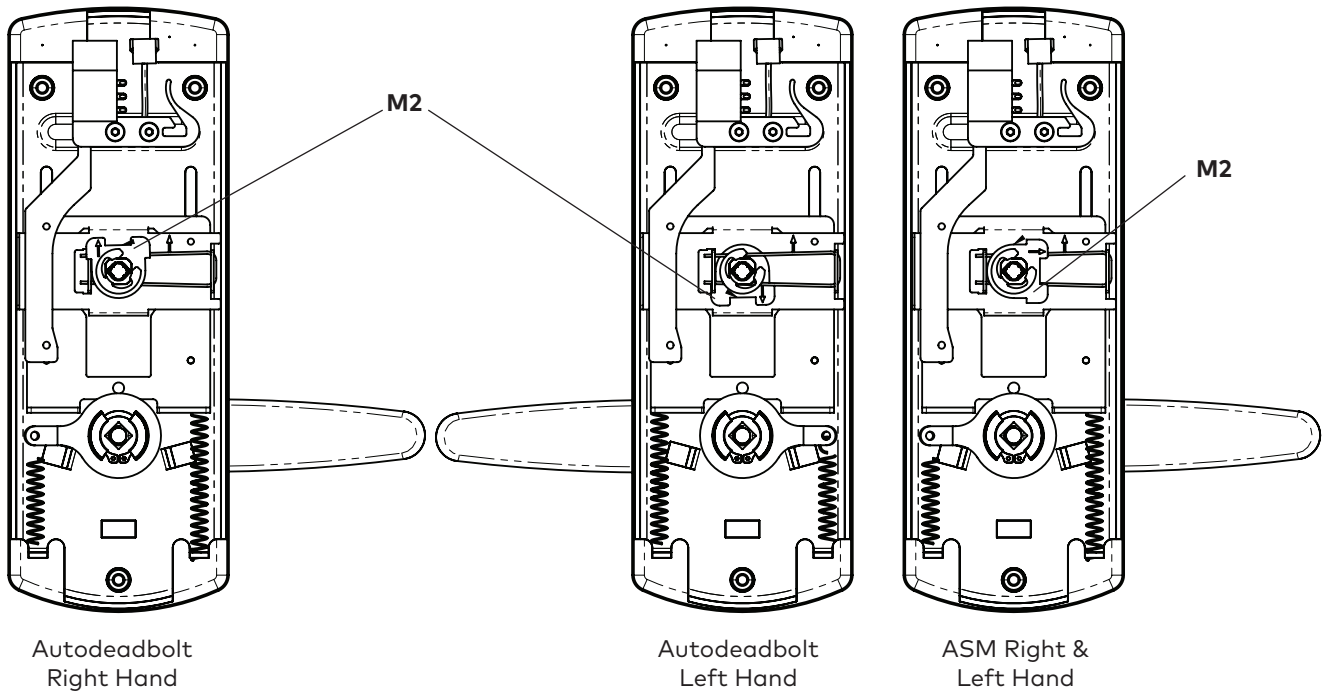
**Note:** D - American Standard Mortise illustrated.

# 2 Checklist and Exploded Views

## 2.5 Autodeadbolt - ASM Inside Trim Assembly for 79T (Toggle Mode)

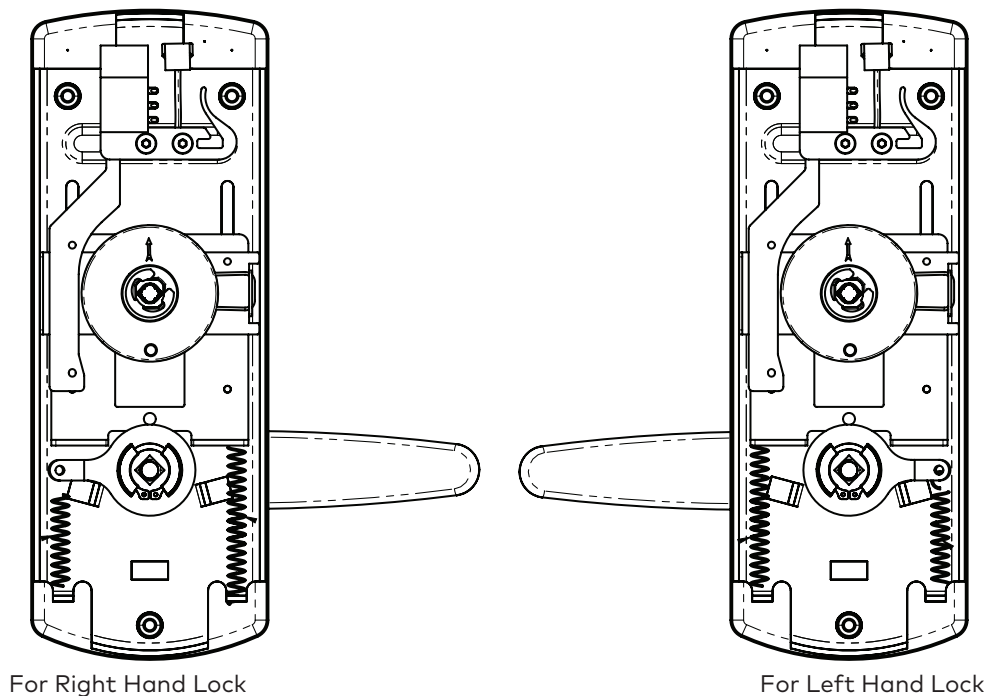
(for 79M standard mode with Autodeadbolt; ASM Office and ASM Storeroom models, use parts (M) as shown in Appendix A.2. and A.3)

**NOTE:** The inside trim assembly (E) for ASM and ADB on 79T models includes the parts (M) as shown below. Position of stopper M2 is very important



## 2.6 Cylindrical Unit and Inside Trim Assembly for 79M Standard Mode (see Appendix B)

### 2.7 Inside Trim Assembly 79T Toggle Mode Cylindrical



# 3 Installation of Standard ASM Models

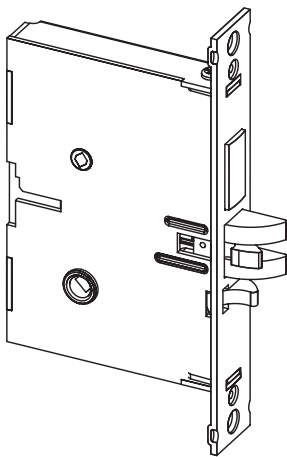
## 3.1 Check the Mortise Handing

Compare the mortise with the diagram below. If the mortise is the correct handing for the door, continue with step 3.2.

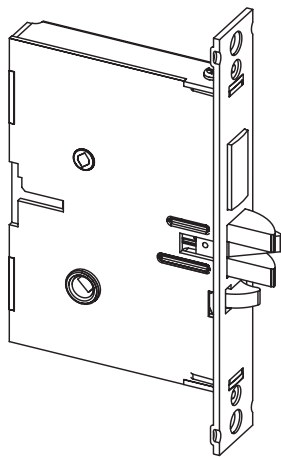
### IMPORTANT

Refer to Appendix A.1 to change the handing of a field-reversible mortise.

#### ASM

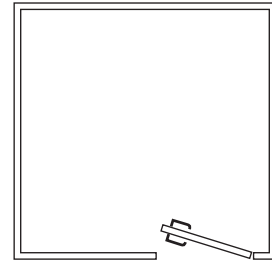


For LH (left hand) and RHR (right hand reverse)

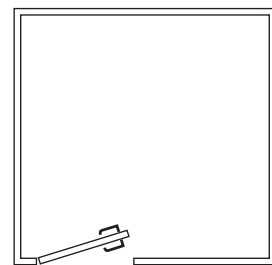


For RH (right hand) and LHR (left hand reverse)

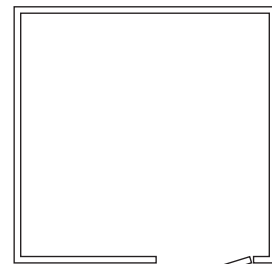
#### Door Handing (Top View)



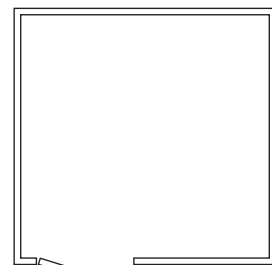
Right Hand (RH)



Left Hand (LH)



Right Hand Reverse (RHR)




Left Hand Reverse (LHR)



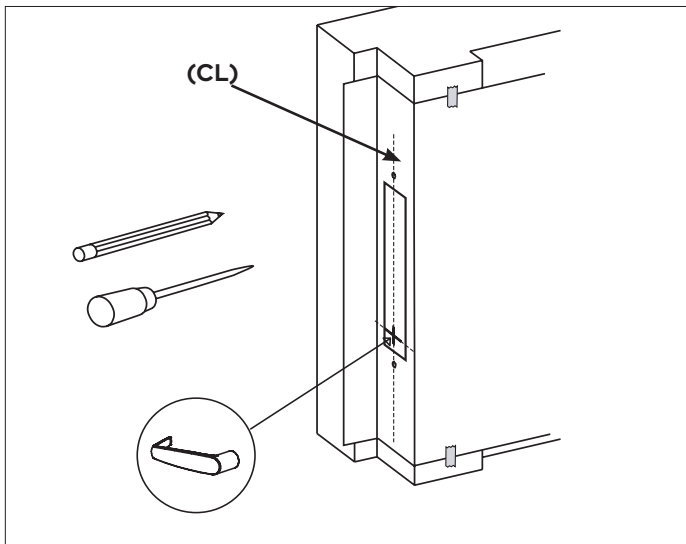
# 3 Installation of Standard ASM Models

## 3.2 Install the Strike

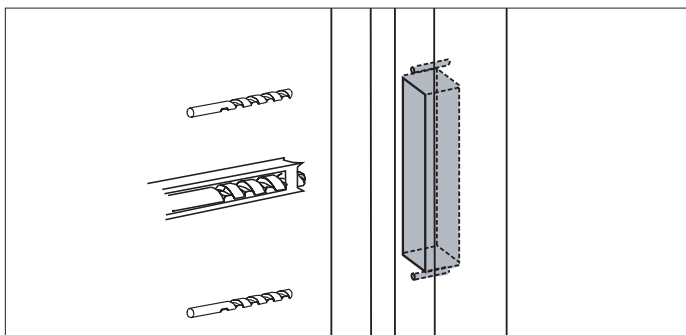
1. Align the paper template on the door frame at the desired handle height (  ), and along the vertical center line of the mortise (CL), which is also the center line of the door edge, allowing for any bumpers on the door frame.

### IMPORTANT

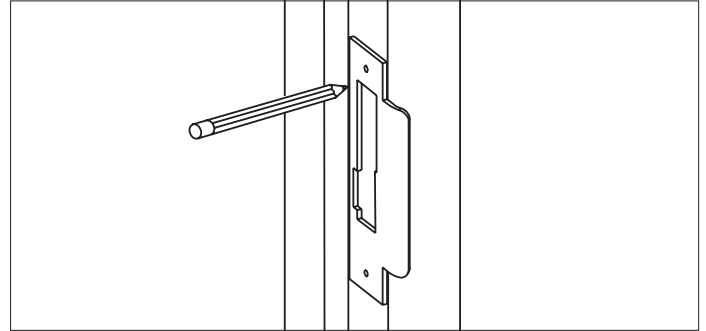
Respect applicable building codes regarding handle height.



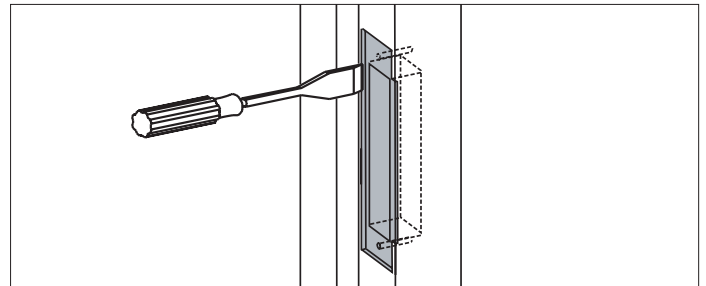
2. Mark the locations of the dust box cutout and mounting screws for the strike.
3. Mortise the door frame to receive the dust box, and drill the pilot holes for the mounting screws (dimensions and depths marked on template).



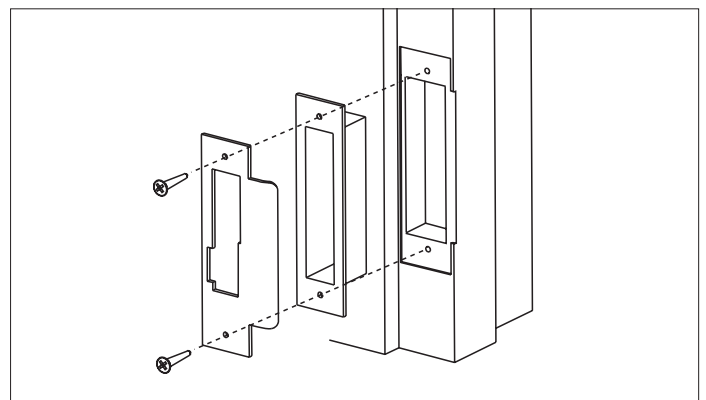
4. Position the strike against the doorframe and align it with the mounting screw holes. Trace the outline of the strike.



5. Remove material from within the strike outline so that the strike will be flush with the doorframe.



6. For ASM, install the dust box (optional for wood door frames, required for metal door frames), and check the strike handing on the template. Install the strike using the screws provided. Use wood screws for wood frame and machined screws for steel frames.



### IMPORTANT

When strike is installed on wood frames under one inch thick, wood screws supplied are not adequate. Use screws of efficient length to engage the structural stud behind the frame. Use only the strike and dust box supplied. Use of non-approved parts may void the warranty.

# 3 Installation of Standard ASM Models

## 3.3 Install the Mortise

### IMPORTANT

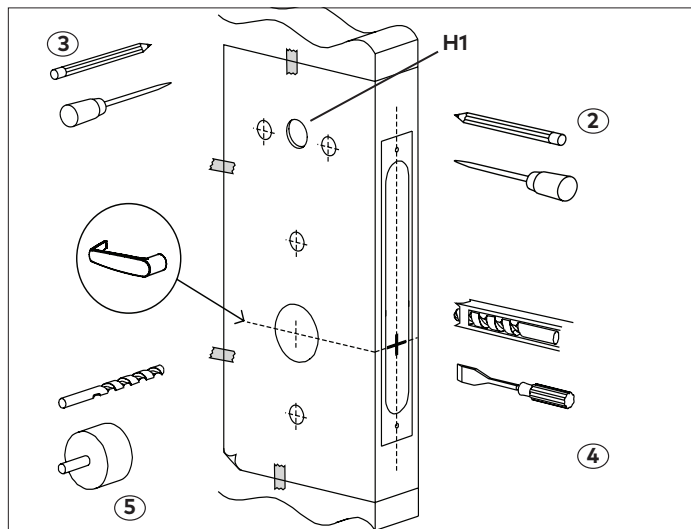
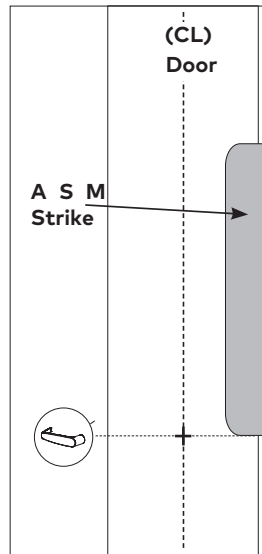
If using the installation jig to prepare the door, refer to the instructions provided with the jig, then proceed with step 6 below.

1. Mark the handle (🔑) height on the edge of the door, as determined directly from the strike.

For ASM, the axis of rotation of the handle is level with the bottom lip of the strike.

For cylindrical models, see B2 in Appendix B

2. Align the template along the vertical center line of the mortise (CL) at the desired handle height, and tape it to the door. Mark all holes and cutouts for the mortise in the edge of the door and remove the template.



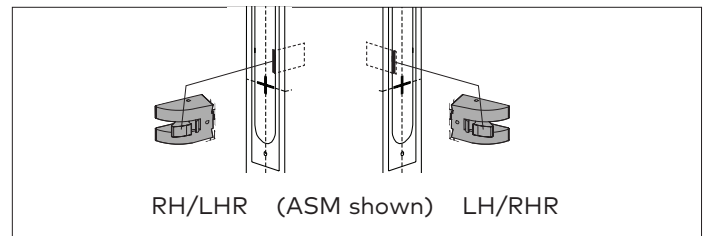
3. Locate the two sets of vertical fold lines on the template allowing you to adjust the positioning of the template depending on the bevel of the door.

If the door has no bevel, fold the template along the solid lines. Align the fold with the edge of the door and mark the holes for the lock. Repeat on the other side of the door.

If the door has a 3° bevel, fold and align the dashed line marked "H" on the template with the higher-beveled edge of the door and mark the lock holes on that side of the door. Repeat on the side with the lower-beveled edge using the dashed line marked "L". Remove the template.

4. Prepare the cut-outs for the mortise in the edge of the door using a mortising machine, router and chisel (for dimensions, refer to template).

Ensure clearance is provided for moving latch parts as indicated on the template.



5. Drill the holes in the sides of the door (for dimensions, refer to template).

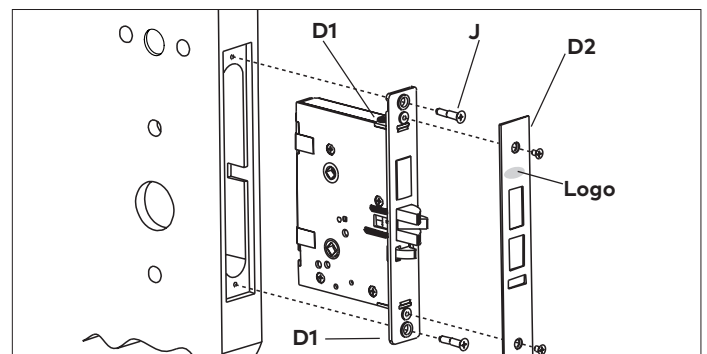
### IMPORTANT

Drill from both sides of the door to prevent unsightly damage

6. For ASM only, check the bevel of the mortise. If adjustment is required, loosen bevel screws (D1) and adjust mortise front plate angle to match the bevel of the door. Re-tighten screws.

Install the mortise with 2 screws (J). Use wood screws for wood doors and machined screws for steel doors.

Install mortise faceplate (D2) with the two 8-32 x 1/4" screws provided.

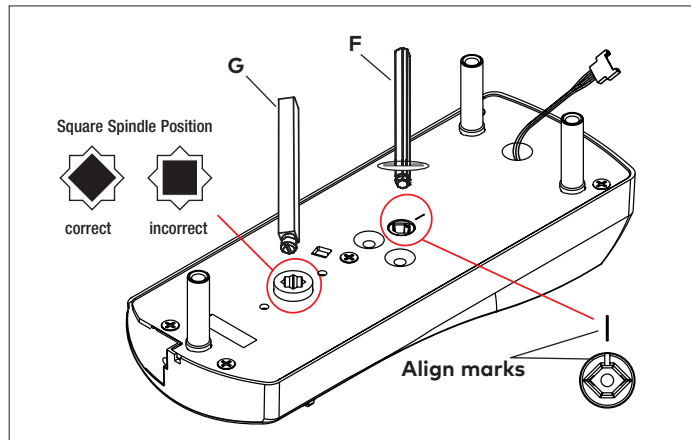


# 3 Installation of Standard ASM Models

## 3.4 Install the Outside Housing and Inside Trim Assembly Without Key Override

### A- For Mortise

1. Insert the slotted end of the square spindle (G) into the outside lever hub at an angle of 45 degrees, until it locks. Then insert the thumbturn spindle (F) in the upper hub of the outside housing and align the marks as shown in the diagram. (The spindle G can be removed by pulling on it if orientated incorrectly).

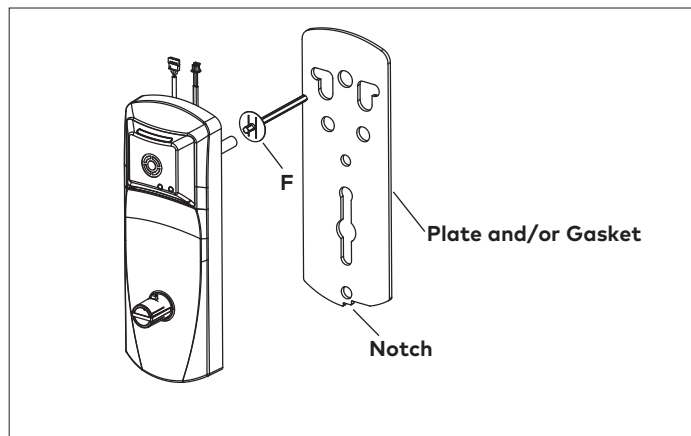


For Spindle F, insert as indicated above. Washer is to be positioned against the back of the outside housing (B)

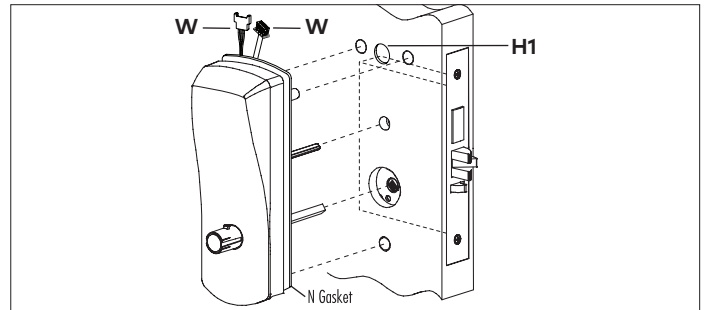
2. Install the gasket (N) (if required) on the outside housing prior to assembly, aligning the notch in the gasket with the battery compartment. See page 3 for gasket information.

If installing the lock with mortise outdoors, order the proper Gasket (See page 3).

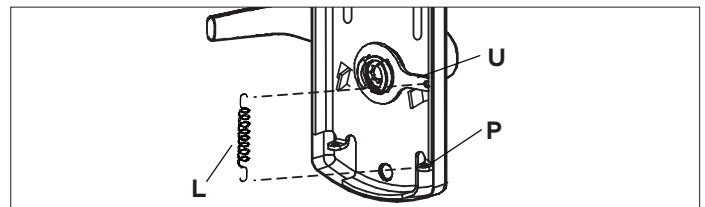
For doors more than 2 1/2" thick, order the appropriate hardware bag to receive the correct length of spindles and mounting screws. (See page 3)



3. Place the outside housing on the door so that the spindles engage the hubs on the mortise. For all locks with cables, insert cables W when applicable in Hole (H1) on the door.



4. On the inside trim assembly turn the lever to the correct horizontal rest position for the handing of the door. Install the tension spring (L) between the handle (H) and the post (P).



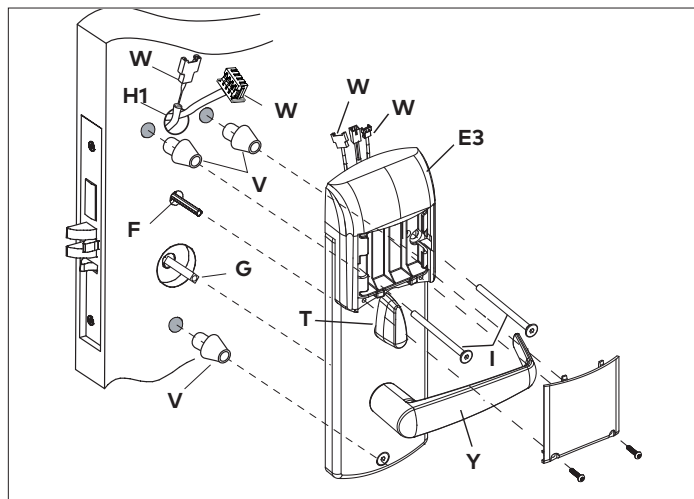
### IMPORTANT

For ASM Office and ASM Store-room models, refer to Appendix A.2 and A.3 at this point.

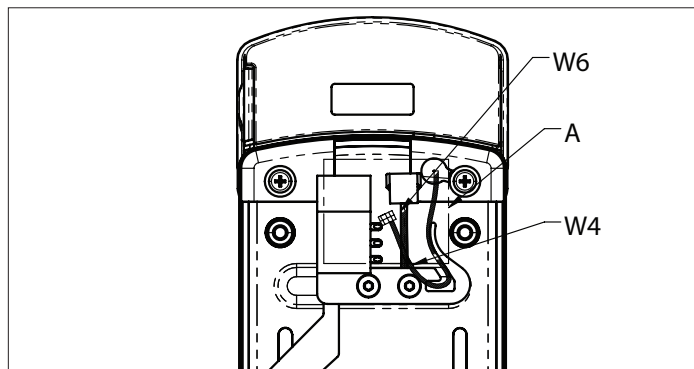
5. Put the thumbturn (T) in a vertical position. Place 3 spacers (S) on the door (for recent models only) and place the inside trim assembly on the door so that the upper and lower spindles (F1/F2) and (G) engage the thumbturn and the inside lever. Fasten to the outside housing using the three 1/8" hex drive mounting screws (I). Install the screws without tightening. Verify the inside lever and thumbturn operates smoothly. If not move the inside and outside housings slightly. Then tighten the screws.

### 3 Installation of Standard ASM Models

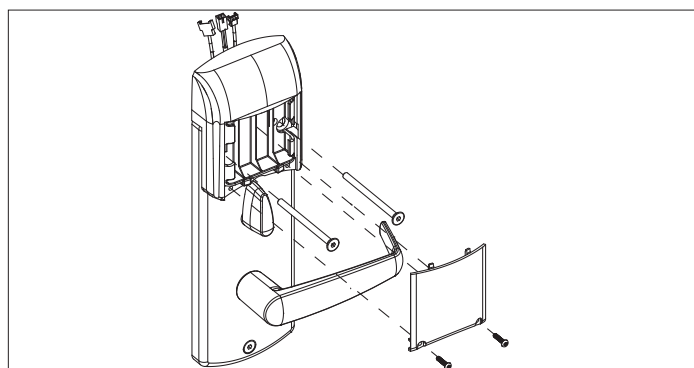
For all models, connect outside housing cables with corresponding inside trim cables when applicable. Put excess cables in hole (H1) when installing the inside trim.



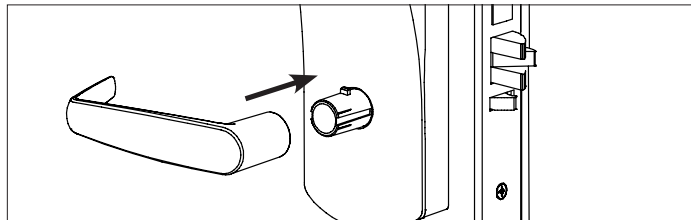
For 79T with ble or E, connect cables with corresponding connectors together (route the w6 in the switch holder as shown in the next figure) and put the excess cables in the area a when installing the inside trim.



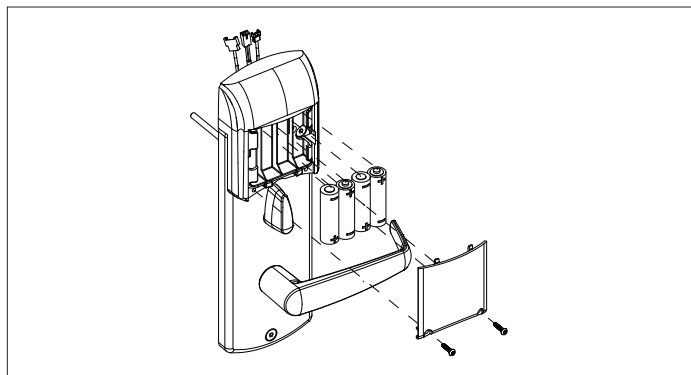
For E7900 series, the battery enclosure cover must be removed to install the mounting screws.



6. Assemble the lever on the outside housing, in the horizontal rest position appropriate to the handing of the door. Simply push the lever onto the tube until it clicks in place. If more force is required, use a rubber mallet. Test the attachment of the handle by pulling smartly on it.



7. For E7900, after the mounting screws have been installed, insert batteries and refasten the battery enclosure cover into place.



# 4 Lock Testing

for mechanical override, see Step 8 Page 37

## ⚠ CAUTION

Perform the following procedures in order, with the door OPEN unless otherwise indicated.

### Inside Lever:

Turn the inside lever downward. The latch bolt retracts fully.

If the lever or the thumbturn feels tight (hard to turn or does not return easily to its horizontal position), check the alignment of the lock assemblies. Loosen the mounting screws and shift the inside trim assembly slightly until the friction is eliminated. If the problem persists check the position of the holes on the door (compared to the mortise).

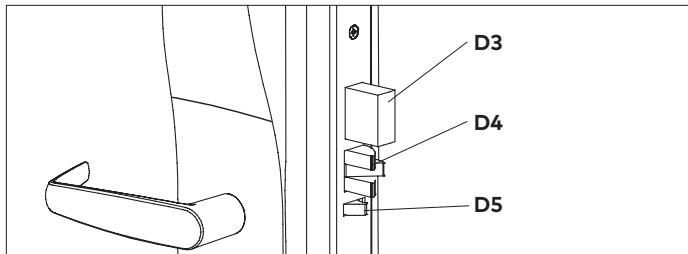
### Standard Deadbolt:

Turn the thumbturn back and forth. The deadbolt extends and retracts fully and without undue friction.

Turn the thumbturn to extend the deadbolt again then turn the inside lever. The deadbolt and the latch bolt retract simultaneously and fully without undue friction.

### Optional Autodeadbolt:

Press and hold the auxiliary bolt (D5). The deadbolt (D3) will extend. Keep the auxiliary bolt depressed, and turn the inside lever all the way down and hold it there. The latch (D4) and deadbolt retract together.



Release the auxiliary bolt (D5), then let the inside lever return to a horizontal position. The deadbolt will remain retracted while the latch will extend.

### Outside Lever:

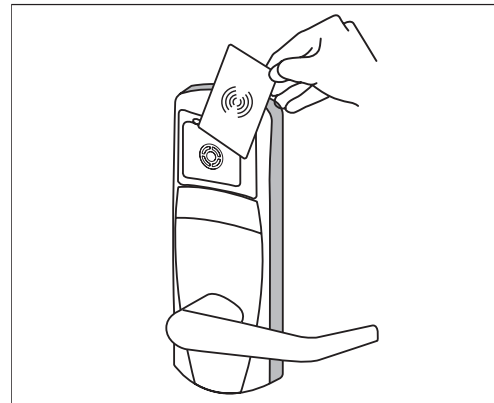
Turn the outside lever downward. The latch bolt does not retract.

If the latch bolt retracts, verify that the batteries are properly installed.

If the lever feels tight (hard to turn, or does not return easily to its horizontal position), ensure the square spindle is not too long.

### Electronics and Card Reader:

Test the lock's response to keycards: a Test keycard, a Grand Master keycard, and an Emergency keycard by presenting them to the reader as shown below.



### A. Test the Lock Before Programming

Normal Entry: Verify that the deadbolt is retracted. Use the Test keycard in the reader. The red and green LEDs each flash once and then the green LED flashes for four seconds. Present card to reader.

Turn the outside lever downward while the green LED is flashing. The latch retracts fully. Release the lever then turn it again after the LED stops flashing. The latch must not retract after the LED stops flashing without first inserting the keycard.

Privacy Switch: Turn the thumbturn to the horizontal position. (On autodeadbolt models, first extend the deadbolt by pressing the auxiliary latch (D5). On storeroom locks, skip this test.) Use the Test keycard in the reader but do not turn the lever. Instead of the normal sequence of indicator lights you should see the following: the red and green LEDs each flash once and then the green LED flashes once, followed by the red LED flashing continuously for four seconds. If you see the flashing green LED there is a problem with the privacy switch.

### B. Lock Programming

Verify that the deadbolt is retracted, and use the Grand Master keycard with the reader. The green LED flashes for 4 seconds. Turn the outside lever downward while the green LED is flashing. The latch retracts fully. Release the lever then turn it again after the LED stops flashing. The latch must not retract after the LED stops flashing without first inserting the keycard.

# 4 Lock Testing

for mechanical override, see Step 8 Page 37

## C. Privacy Function: Lockout of Keycards

Turn the thumbturn to the horizontal position for privacy. (On autodeadbolt models press and hold the auxiliary latch (D5) to extend the deadbolt, then turn the thumbturn for privacy. On storeroom locks, skip this test.)

Use the Grand Master Keycard (not applicable on E7900). The red LED flashes once. Then turn the outside lever downward. The latch does not retract.

Important: For multihousing 79T, verify that you hear the motor while turning the thumbturn. If you don't, the lock is not programmed as 79T and must be re-programmed as 79T.

For multihousing 79M, verify that you don't hear the motor while activating the thumbturn. If you hear the motor the lock is programmed as 79T and must be re-programmed as 79M.

## D. Emergency Keycard Access: Deadbolt Override

Use the Emergency keycard with the reader. The red LED flashes for 4 seconds. Turn the outside lever downward while the red LED is flashing. The deadbolt and latch bolt retract simultaneously and fully.

While standing outside the room close the door and ensure that it is properly latched. Open the door using the Grand Master keycard using the same procedure.

## E. Inside and Outside Lever Detection for Toggle Mode only.

Before fastening the inside trim assembly to the outside housing assembly, check that the lever switch (W2) is well connected to the wire harness (W1) (see p.5). Check that the thumbturn (T) is in the vertical position as shown in step 5 page 11.

Verify the lock is in passage mode while the thumbturn is in vertical position. For that, activate the outside lever handle and verify the latch bolt retracts. Rotate the thumbturn to horizontal position and then activate outside lever handle. Latch bolt must not retract as the lock should be in locked mode. Rotate the inside lever handle and verify the latch bolt retract and the thumbturn returns to vertical position. Rotate outside lever handle verify the latch bolt retracts as the lock should be in passage mode.

If it does not operate as described above, that means the lock is not programmed as a 79T or is defective.

Present the emergency card to the reader. (The LED will flash for 4 seconds). Rotate the lever as soon as the LED starts flashing - The LED will stop flashing. If it does not, there is a problem with the lever detection.

## Deadbolt Deactivation:

### A. Deadbolt Deactivation by Thumbturn

While standing inside the room, close the door, and then turn the thumbturn to extend the deadbolt. (If the lock has an autodeadbolt mortise go to step B below).

Turn the thumbturn to retract the deadbolt. Repeat.

### B. Deadbolt Deactivation by Lever

While standing inside the room, close the door and turn the thumbturn to the horizontal position to extend the deadbolt (or to select privacy on autodeadbolt models). Open the door by turning the lever. The deadbolt and the latch bolt retract simultaneously and fully. Take note of any excess friction which might necessitate filing the strike (deadbolt area only). Repeat

# 5 Programming and Software Setup - Overview

The following chapter is intended to be a basic guide for the setup of your E-Plex lock system. For further details, please refer to the following sources:

- E-Plex 7900 Command Card User Guide (KD10090-E)
- M-Unit User Guide (KD10093-E)
- Aurora/LUNA Help (included with software)

The software covered in this chapter is capable of working with a large variety of dormakaba products, the details of which can be found in a variety of other documents. The scope of this chapter will be limited to the use of these software tools in setting up and managing an E-Plex lock system consisting of E-Plex 7900 locks.

## 5.1. Overview

In this guide, two basic setup types are described; Offline and Wireless.

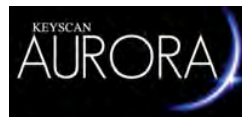
### Offline Lock Setup -

A site consisting of standalone locks that record and store transaction information in the lock itself. This information must be retrieved manually via audits using special hardware (the M-Unit) to collect this data and transport it to a computer where it can be stored and analyzed. Setting up such a system involves using the software to configure lock/system settings, then using the M-Unit to manually transport this configuration data to each individual lock. Both Aurora and LUNA are capable of managing a system of offline locks.

### Topics of Interest for Offline Lock Setup:



- Downloading the LUNA Software
- LUNA Software Installation
- Opening LUNA for the First Time
- Changing your Password (LUNA)
- E-Plex Offline Setup (LUNA)
  - Adding Users (LUNA)
  - Assigning Credentials to Users (LUNA)
  - Master PIN and Master Credential (LUNA)
  - Adding Locks (LUNA)
  - Creating an E-Plex Door Group (LUNA)
  - Schedules (LUNA)
  - Programming E-Plex Locks (LUNA)
  - Creating the Program File (LUNA)
  - Transferring Files Using the M-Unit (LUNA)



- Aurora Software Installation
- Opening Aurora for The First Time
- Changing your Password (Aurora)
- E-Plex Setup (Aurora)
  - Defining a Person Type (Aurora)
  - Adding Users (Aurora)
  - Assigning Credentials to Users (Aurora)
  - Master PIN and Master Credential (Aurora)
  - Adding Locks (Aurora)
  - Creating an E-Plex Door Group (Aurora)
  - Schedules (Aurora)
  - Assigning Schedules to Doors (Aurora)
  - Creating The Program File (Aurora)

### **M-Unit topics for Offline Lock Setup:**

- About the M-Unit
- Transferring the Program File to the M-Unit
- Programming E-Plex Locks
- Transferring the Program File to the Lock
- M-Unit Audits
  - Auditing an E-Plex 7900 Lock
  - Viewing Audits (LUNA)
  - Viewing Audits (Aurora)

# 5 Programming and Software Setup - Overview

## Wireless Lock Setup-

A site consisting of locks that exist as part of a networked lock system, wherein locks are connected wirelessly to a computer with monitoring software via Gateways. The M-Unit is used to determine the optimal placement of locks and gateways, and also provides a variety of network diagnostic tools. Locks can be setup and configured wirelessly and the transactions can be recorded at the computer and monitored in real-time. Aurora software is capable of supporting a wireless lock setup.

### Topics of interest for Wireless Lock Setup:



- Aurora Software Installation
- Opening Aurora for The First Time
- Changing your Password (Aurora)
- E-Plex Setup (Aurora)
  - Defining a Person Type (Aurora)
  - Adding Users (Aurora)
  - Assigning Credentials to Users (Aurora)
  - Master PIN and Master Credential (Aurora)
  - Adding Locks (Aurora)
  - Creating an E-Plex Door Group (Aurora)
  - Schedules (Aurora)
  - Assigning Schedules to Doors (Aurora)
- Adding and Configuring a Gateway (Aurora)
- Joining an E-Plex Gateway as a Router (Aurora)
- E-Plex Server Certificate Setup (Aurora)
- Assigning E-Plex Locks to a Gateway (Aurora)
- Joining a Lock to a Gateway (Aurora)

**IMPORTANT:** Site Survey is required when setting up wireless E-Plex Locks to determine the best setup. Prior to installing a lock, the signal strength of a ZigBee network must be identified to best measure where to place a Gateway. Please review section [5.8.1. Site Survey](#) first before beginning your wireless lock setup.

### **M-Unit topics for Wireless Lock Setup:**

- About the M-Unit
- Transferring the Program File to the M-Unit
- Programming E-Plex Locks
- Transferring the Program File to the Lock
- M-Unit Audits
  - Auditing an E-Plex 7900 Lock
  - Viewing Audits (LUNA)
  - Viewing Audits (Aurora)



# 5 Programming and Software Setup - LUNA


## 5.2. LUNA Installation and Setup

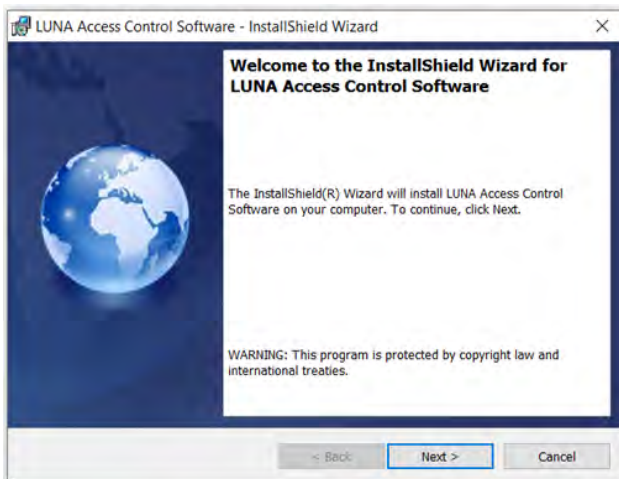
### 5.2.1. Downloading the LUNA Software

LUNA software can be used in conjunction with the M-Unit hardware to manage offline E-Plex doors and perform basic functions such as adding Users and Credentials, creating Schedules, and viewing lock Audit information. To download a free copy of the LUNA software, do the following:

1. Open a web browser and visit the website [dormakaba.us/LUNAsoftware](http://dormakaba.us/LUNAsoftware)
2. Fill out the required company details on the page, then click the Submit button.
3. Once your information has been submitted, a download link should appear. You will also be sent an email with a download link. Click one of these links to download LUNA to your computer.

### 5.2.2. LUNA Software Installation

1. Once downloaded, run the LUNA Installation Wizard by double-clicking the  LUNASetup.exe file.




2. Read and follow the steps of the Installation Wizard and take the appropriate actions when prompted.
3. At the "Welcome..." screen, click the Next button to proceed with the installation.
4. On the "License Agreement" page, read over the license terms, click the circle next to "I accept the terms in the license agreement", then click the Next button.
5. Next, click the "Install" button to allow the wizard to begin the installation. Note: This requires Windows Administration privileges.
6. When asked if you want LUNA Access Control Software to make changes to your device, click Yes. The InstallShield Wizard will then begin the installation process.
7. Once the installation is complete, click Finish to exit the wizard.

### 5.2.3. Opening LUNA for the First Time



1. To run LUNA Access Control Software, double-click the icon on your computer's desktop



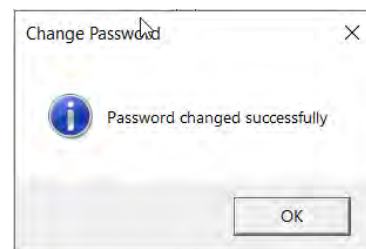
2. On the LUNA Login screen, enter your password, then press Enter or click the key icon to login. 

NOTE: If this is your first time logging into LUNA, enter the default password > KEYSCAN (all caps). To ensure better security, it is recommended that you change the password to something unique.

### 5.2.4. Changing your Password (LUNA)

1. From the main screen, click the triple-bar icon in the top right corner of the screen to open the menu 
2. From the menu, click the "Settings" icon 
3. In the User Options section of the Settings screen, type your Current Password, New Password, and then confirm your new password in the spaces provided.

4. Click the Change Password button to finalize the password change.
5. Click the OK button to close the popup.




# 5 Programming and Software Setup - LUNA



## 5.3. E-Plex Offline Setup (LUNA)



### 5.3.1. Master PIN and Master Credential (LUNA)

1. From the main menu, select the "Settings" icon 
2. Under "E-Plex Settings", enter a numerical Master PIN in the field provided. The Master PIN is used by the Master user when adding new E-Plex locks to the site.
3. Click the small plus icon **+** to add a Master Credential. Using the drop-down menu, select a credential type from the list provided, then enter the credential information in the fields provided.
4. Click the OK button to add the new Master Credential.

### 5.3.2. Adding Users (LUNA)

1. After logging into LUNA, access the LUNA main menu by clicking the  icon in the top-right corner
2. From the main menu, select the "People" icon 
3. To add a new LUNA user, locate and click the **+** (plus sign) next to the word "People" on the left side of the screen
4. Enter a Name for the new person in the space provided. If this person requires Extended Entry, click the associated checkbox. If this person being added is a Manager, click the associated checkbox.
5. To save this person, click the Save button on the bottom-right side of the screen. Be sure to do this whenever you make any changes.
6. A person's status can be set to Active or Inactive in the system by clicking their status icon on the "People" screen.

A person is Active when their status icon is green:




A person is Inactive when their status icon is red:



Clicking this icon toggles the user's status from active to inactive and vice versa.

7. Additional user information/text can also be added for each person by use of the Optional Fields at the bottom of the screen.

### 5.3.3. Assigning Credentials to Users (LUNA)

1. From the main menu, select the "People" icon 
2. On the "People" screen, choose a user from the list of people on the left-side of the screen.
3. To add a new user credential, locate and click the **+** (plus sign) next to the word "Credential Information" on the right side of the screen
4. A drop-down menu will appear with a list of card formats to choose from. Click one of the available options.
5. Enter the credential information in the fields provided.
6. The status of any user credential can be set to Active or Inactive by clicking/toggling the credential status icon in a similar fashion as described for the person status icon
7. Add the credential to one or more Groups by clicking the checkbox next to the group name(s).
8. Click the Save button.

Note: You can remove any cards you have added by navigating to the card you want to delete using the blue arrows or the drop-down menu showing all of the person's cards, and click the trashcan icon next to "Credential Information".

# 5 Programming and Software Setup - LUNA


## 5.3.4. Adding Locks (LUNA)

1. From the main menu, select the "E-Plex Doors" icon.






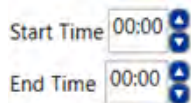
2. Enter a name for your door in the Name field provided
3. Use the drop-down to choose "E-Plex 7900" from the list of supported Lock Models
4. Use the drop-down list to choose from one of the following Function Types: Entry Lock, Residence Lock, or Privacy Lock
5. Use the drop-down lists to select a time (in seconds) for each of the following lock settings: Unlock Time, Buzzer Volume (E-Plex 3X00 and 5X00 series only), Tamper Count, Tamper Lockout, Manual Passage Duration
6. Enter a "Door Held Open" time (in seconds) in the field provided
7. Once you have entered all the required door/lock info, click the Save button.

## 5.3.5. Creating an E-Plex Door Group (LUNA)

1. From the main menu, select the "E-Plex Doors" icon.
2. Click the plus sign  to add a new E-Plex Door Group
3. Enter a name for your E-Plex Door Group in the space provided.
4. Use the "E-Plex Doors" and tabs to add new doors/locks to the E-Plex Door Group. See "Adding Locks" section for details.
5. Use the "Schedules" tab to apply schedules to your E-Plex Door Group. To assign one or more schedules, click the corresponding checkbox next to the schedule name.
6. Click the Save button.

## 5.3.6. Schedules (LUNA)

1. From the main menu, select the "Schedules" icon 
2. Click the plus sign  next to "Schedules" to create a new schedule.
3. Enter a name for the Schedule in the space provided.
4. Use the arrow icons  to adjust the Start Time and End Time for each of the days of the week and for holidays.



5. Click the Save button.

## 5.3.7. Programming E-Plex Locks (LUNA)

To transfer the lock settings from LUNA, you will need to create a program file, load the program file onto the M-Unit, then use the M-Unit to transfer the file.

## 5.3.8. Creating the Program File (LUNA)

1. From the main menu, select the "E-Plex Doors" icon
2. Select a door from the list of E-Plex Doors on the left side of the screen
3. Click on the "Create Program File" button.



Create Program File

4. This will create a data file in your computer's My Documents folder, with the file name being the same as the E-Plex Door name.

## 5.3.9. Transferring files Using the M-Unit (LUNA)

Please refer to the M-Unit section for details.

# 5 Programming and Software Setup - Aurora


## 5.4. Aurora Installation and Setup

### 5.4.1. Aurora Software Installation

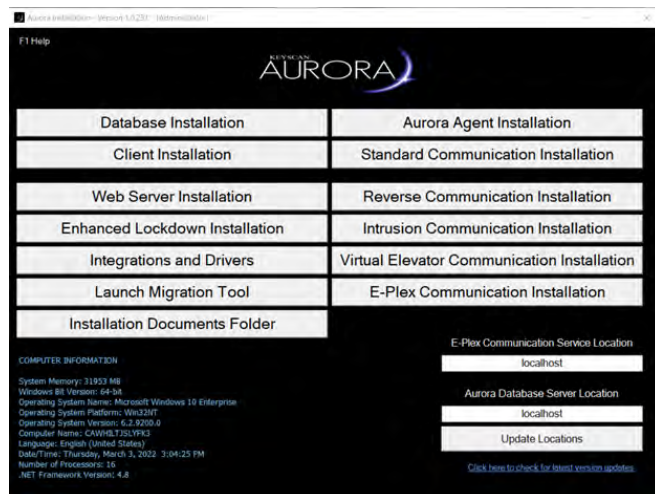
Before installation, refer to the Aurora Architectural & Engineering specifications document (KD500021) to ensure that your computer meets the system requirements. This document can be found in the Aurora Documents folder, which is included with your copy of the Aurora Software.

When you purchase Aurora, you will be provided with all of the necessary files and license numbers needed to complete the installation.

To install the Aurora Software onto your computer, do the following:

1. Open the folder containing the Aurora installation files, locate and right-click the file  **AuroraInstallation.exe** and choose "run as administrator" to begin the installation process.
2. When asked if you want Aurora Installation Helper to make changes to your device, click Yes. The InstallShield Wizard will then begin the installation process
3. The main Aurora Installation window contains a set of buttons for the installation of the various Aurora modules. The modules should be installed by clicking the respective buttons in the following order:
  - i) Database Installation (requires reboot)
  - ii) Aurora Agent
  - iii) Client Installation
  - iv) E-Plex Communication Installation
  - v) Standard Communication Installation
  - vi) Any other Software modules that you have purchased

To install, simply click the respective button, then follow any onscreen instructions to complete the installation and wait for the installation to complete before proceeding to the next module.



4. Once you've installed all the modules for which you've purchased a license, click the x to close the Aurora Installation window.

### 5.4.2. Opening Aurora for the First Time

1. To run the Aurora Software, double-click the icon on your computer's desktop



2. On the Aurora Login screen, enter your user name and password, then press Enter or click the key icon to login.



NOTE: Use the following credentials to log into Aurora for the first time > User Name: keyscan, Password: KEYSKAN (all caps) To ensure better security, it is recommended that you change the password to something unique.

### 5.4.3. Changing your Password (Aurora)

1. From the main menu, select the "Settings" icon then click "Manage System User"





- From the User Search directory, locate and double click on the system user who's password you want to change.
2. Below Login Information, click on the "Force Change Password" button, then click the Save button.
3. Quit Aurora, then reopen by double-clicking the icon on your computer's desktop.
4. When Aurora opens again, enter your User name and password, then press Enter or click the Key icon to login.
5. Next, enter your new password, then re-enter this new password again in the places provided. Press Enter or click the Key icon to complete the password change.

# 5 Programming and Software Setup - Aurora

## 5.5. E-Plex Setup (Aurora)



### 5.5.1. Master PIN and Master Credential (Aurora)

1. From the main menu, select the "Site Management" icon, then click "Site Information Setup" 
2. Choose a site from the list provided, or create a new site by clicking the "Add Site" button.
3. In the space provided, enter a unique 8-digit E-Plex Master PIN.
4. To add an E-Plex Master Credential, do the following:
  - a. click on the  icon.
  - b. In the window that opens, specify the Credential Type, Card and Batch numbers as required.
  - c. Click the OK button when complete.
5. To complete the site setup, click the Save button.

### 5.5.2. Defining a Person Type (Aurora)

Aurora Users are categorized by Person Type. There are two default Person Types (Employee, Visitor), though you can define your own Person Types as well. When defining Person Types in Aurora, you must ascribe to each an E-Plex Type.

There are three primary E-Plex Person Types in Aurora: Manager, Guest, and M-Unit. Refer to their respective descriptions below.

#### Manager

- Lock programming/audit rights and 24/7 access; no expiry
- Overrides Holidays
- Overrides Privacy
- Overrides Lockdown \*\* (can be changed if Enhanced Lockdown is registered)
- Temp settings do not apply



#### Guest


- Schedule based access with optional privileges
- Follows schedules
- Follows temp settings
- Cannot override Lockdown \*\* (can be changed if Enhanced Lockdown is registered)

#### M-Unit




- 24/7 lock programming/auditing rights only but no access; no expiry
- Temp settings do not apply

To define a Person Type, you must do the following:

1. From the main menu, select the "Settings" icon then click "Application Utilities" 
2. On the "Application Settings" tab, click the  (plus sign) icon next to the "Person Type" heading. This will create a new Person Type with a generic name.
3. Click the new Person Type that was created and enter a new name for this person type.
4. If you wish to make this new Person Type a Visitor, change the "Visitor" field to "Yes". If this new Person Type is not for Visitors, leave the "Visitor" field set to "No"
5. The "E-Plex Type" is set to "Not Used" by default. To change the E-Plex Type, click where it says "Not Used", then select an E-Plex Type from one of the options in the drop-down menu.
6. Repeat the previous steps to add more Person Types, or click the "Save" button once you are finished.

**Note:** If you wish to delete any of the Person types you have created, simply click the corresponding  icon.


### 5.5.3. Adding Users (Aurora)

1. From the main menu, select the "Manage People" icon, then click "Add Person" 
2. In the fields provided, enter the user's Given Name, Middle Name, Surname, and E-mail address.  
**Note:** In The personal Information fields, Given Name and Surname are mandatory.
3. Under "Type", use the drop-down menu to select a Person Type for the User. The drop-down menu will contain all the Person Types that you defined previously.
4. A person's status can be set to Active or Inactive in the system by clicking their status icon. A person is Active when their status icon is green:  

5. A person is Inactive when their status icon is red:  

6. Clicking this icon toggles the user's status from active to inactive and vice versa.
7. Click the Save button.



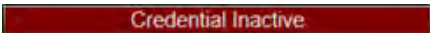
# 5 Programming and Software Setup - Aurora

## 5.5.4. Assigning Credentials to Users (Aurora)

1. From the main menu, select the "Manage People" icon, then click "Manage People".  

2. On the "Person Search" screen, use the filter fields to search for a person, or simply scroll through the list of people until you find the one you would like to assign a credential.
3. Double-Click the person who you wish to assign a credential. This will open the "Edit Person" screen.
4. On the "Credential Information" tab, click the "Add Keyscan Credential" drop-down menu, then select the credential type you wish to add.
5. Enter the credential information in the fields provided.
6. Under "Site Assignment", use the check-boxes to select the sites and groups in which the credential will be used.
7. The credential status can be set to Active or Inactive in the system by clicking the credential status icon. A credential is Active when its status icon is green:



A credential is Inactive when its status icon is red:



Clicking this icon toggles the credential status from active to inactive and vice versa.

8. Click the Save button.

## 5.5.5. Adding Locks (Aurora)

1. From the main menu, select the "Site Management" icon, then click "Hardware Setup"
2. Select a site from the list provided
3. Select the "Door Groups" tab, then use the drop-down menu to select an E-Plex Door Group.
4. On the "E-Plex Doors" tab, use the dropdown menu to choose the door/lock type you wish to add (E-Plex 7900).
5. Fill out the following fields, where applicable:
  - o Name – to identify the door; generally, the name should indicate where the door is located
  - o Lock Model – identifies the model of E-Plex wireless lock being used ("E-Plex 7900", in this case)
  - o Is Wireless – check the box if setting up a wireless lock, or leave unchecked to setup an offline lock (not wireless)
  - o Function Type – select between Entry, Residence, or Privacy lock.
  - o Unlock Time – to set the amount of time, in seconds, that the door remains unlocked once opened
  - o Tamper Count – sets the number of failed credential reads that will trigger a Tamper Lockout
  - o Tamper Lockout – sets the amount of time, in seconds, the lock will sit idle for once the Tamper Count has been exceeded
  - o Manual Passage Duration – the amount of time, in hours, a door remains unlocked using Manual Override via the Aurora Status screen.
  - o Door Held Open – the time interval, in seconds, the door may remain open before the system reports a Door Held Open violation
  - o \*Gateway – a pathway number will appear here after the Gateway establishes connection with the Aurora software.
  - o \*Zac – this PIN code is integral to successfully pair a Gateway to the Aurora software for wireless lock setup. Select the wrench icon to randomly generate a new PIN code.
  - o \*\*Create Program file – Use to create a programming file for setting up an offline (non-wireless) lock.


\* - For wireless lock setup only. Appears only if "Is Wireless" is checked.

\*\* - For offline (non-wireless) lock setup only. Appears only if "Is Wireless" is unchecked.



6. Click the Save button to add the lock to your Site and Door Group.

# 5 Programming and Software Setup - Aurora

## 5.5.6. Creating an E-Plex Door Group (Aurora)

1. From the main menu, select the "Site Management" icon, then click "Group Setup" 
2. If you have multiple sites, double-click on the site to which the group belongs.
3. On the "Group Setup" screen, locate an unused group from the list of groups.
4. To name/rename the group, click under the Group heading, and type a new name.
5. Click the text beneath the "Active" field, then use the check-box that appears to set the field to "Yes" , or "No"
6. Click the text beneath the "Visitor Group" field, then use the check-box that appears to set the field to "Yes" , or "No"
7. Click the text beneath the "E-Plex Group" field, then use the check-box that appears to set the field to "Yes" , or "No"
8. Click the Save button

## 5.5.7. Schedules (Aurora)

1. From the main menu, select the "Site Management" icon, then click "Schedule Management"
2. If you have multiple sites, double-click on the site containing your E-Plex locks
3. Click the dropdown arrow  next to where it says "Add Keyscan Schedule", then choose "E-Plex Schedule"
4. In the Schedule Details, enter an appropriate name for your schedule
5. In the Schedule Details area, you are provided with a blank weekly schedule (Monday to Sunday). Use your mouse to click and drag a desired time range for your schedule. You can resize the time range you've created by clicking it on either side and stretch or shrink it as desired. You can also delete a time range by clicking the trashcan icon .

## 5.5.8. Assigning Schedules to Doors (Aurora)

1. From the main menu, select the "Site Management" icon, then click "Hardware Setup"
2. If you have multiple sites, double-click on the site containing your E-Plex locks
3. On the "Hardware Setup" screen, Select the "Door Groups" tab
4. On the "E-Plex Doors" tab, Select an E-Plex Door Group using the drop-down menu
5. Click the "Schedule Assignment" tab. A list will appear showing all available E-Plex Schedules for this site
6. To assign one or more schedule, click the checkbox next to the desired schedule name(s)
7. Click on the corresponding schedule row to set your Schedule On Mode and Schedule Passage Mode:
  - o Schedule On Mode - dictates how a credential holder can enter an E-Plex door when the schedule is activated. Select between Card Only, Card and Keypad, Card or Keypad, or PIN only
  - o Passage Mode - select one of the four options from the drop-down list:
    - None - The lock never grants free passage.
    - Auto - The lock automatically enters free passage at the start of this schedule and locks back at the end of the schedule automatically.
    - First Authorized Passage - The lock goes into free passage, only after a valid "privileged" user opens it with their credential at or after the start of this schedule.
    - Manual Keypad - Only the Master or the Manager users can manually set/reset the free passage at the lock keypad between the start and end times of this schedule for Manual Passage mode duration set in the software.
8. To complete the Schedule Assignment, click the Save icon.

## 5.5.9. Creating the Program File (Aurora)

1. From the main menu, select the "Site Management" icon, then click "Hardware Setup"
2. If you have multiple sites, select the site from the list that contains your E-Plex lock(s)
3. On the "Hardware Setup" screen, Select the "Door Groups" tab
4. On the "E-Plex Doors" tab, Select an E-Plex Door Group using the drop-down menu
5. In the "E-Plex Door Details", ensure that "Is Wireless" is unchecked, then click the Save button.

Is Wireless 

6. Locate and click the "Create Program File" button.



A file named after your E-Plex Door will be created in your computer's Documents folder

# 5 Programming and Software Setup - Aurora

## 5.6. Additional Topics For Wireless Setup

### 5.6.1. Adding and Configuring a Gateway (Aurora)

**IMPORTANT:** Prior to configuration, ensure you are running Microsoft .net Framework 4.8 or above and possess Local Administrator privileges. Before opening the software, right-click on the Aurora .exe file and select "Run as Administrator".

1. From the Aurora main menu, click the "Settings" button, and choose "Application Utilities".



2. Click on the "Gateway Setup" tab. Add a Gateway by using the drop-down arrow in the left corner, and click either clicking Legacy or Multi-Segment depending on your hardware type.
3. Fill out the following fields:
  - Name - The name or description that can easily identify the gateway. For example, where the gateway is located: "Main Office".
  - Channel - A radio frequency (RF), using a ZigBee wireless protocol, that E-Plex locks use to communicate with E-Plex gateways. > Ensure "All Channels" is selected
  - MAC Address - The MAC address of the E-Plex gateway. This will show up once the Gateway is configured.
  - Server Name - The name of the computer hosting E-Plex services used by the gateway to process information between E-Plex locks and the Aurora software.
  - Server IP Address - The IP address of the computer hosting E-Plex services that the gateway will communicate with. > Ensure this is identical to the LAN IP address of your computer server
  - Connection Type - The way in which the E-Plex gateway is connected to the E-Plex server. The device can be physically connected through a USB cable to the machine hosting E-Plex services or the device can be connected, using a network cable, to the network that E-Plex services are also on. If Connection type is set to Network, you'll also need to specify further network details.
4. Click the Save button
5. If using a USB connection, press and hold the reset button on the Gateway as you plug the Gateway into the USB port of the computer. Release the reset button once a USB connection is made.

6. The Gateway will flash green and red LEDs as it prepares for configuration. When the Gateway flashes only green, click the "Configure" button in the Aurora software.
7. A popup will appear informing you the Gateway has been successfully configured. If you wish to configure more E-Plex Gateways, click the "No" button. If you are finished configuring all E-Plex Gateways, wait until the Gateway reboots, then click the "Yes" button. Selecting "Yes" restarts the local E-Plex Server Service to ensure that the new Gateway(s) connect to that server. If the E-Plex Server Service is on a remote computer, you will need to restart the E-Plex Server Service and/or reboot the computer to ensure the new E-Plex Gateway(s) connect correctly.

### 5.6.2. Joining an E-Plex Gateway as a Router (Aurora)

**IMPORTANT:** Ensure that the intended router is set to factory mode before attempting to join it to a Gateway.

1. Set the Gateway you wish to pair with the Router to Join On Mode from the Gateway Status widget, found in the Status Window.



2. Power the Router by first pressing and holding the green button (reset) on intended router for 5 to 10 seconds, then release the button. The red and green LEDs on the router will both be flashing in unison.
3. Wait until only the green LED is blinking, then press the green button again to reset the router.
4. If successful, the router and Gateway LEDs should both have an identical flashing pattern, otherwise repeat the power/reset process again.
5. From the Aurora main menu, click the "Settings" button, then choose "Application Utilities"



On the Gateway Setup tab, select your gateway and verify the router appears in the list of routers.

6. Return to the Status Window and take the router out of Join On mode.



# 5 Programming and Software Setup - Aurora

## 5.6.3. E-Plex Server Certificate Setup (Aurora)

To setup an E-Plex Server, you need to set up the following certificates:

**Root Certificate** – acts as the certificate authority for other certificates stored in the database.




**E-Plex Server Certificate** – required certificate for your E-Plex server

To create a **Root certificate** (\*.DER Certificate), perform the following steps:

1. From the main menu, click the "Settings" icon, then click "Application Utilities"



2. In the Security tab, click "create CA root certificate"
3. When running Aurora as an Administrator, an "Import Into Store" button will appear next to each certificate the user creates in Certificate Management. When clicked, the certificate will be added to the local PC's certificate store. The icon next to each certificate indicates its current state:

-  Green check mark = Found in the local PC's certificate store and it's valid
-  Orange Triangle = Found in the local PC's certificate store and it's not valid
-  Red 'X' = Not found in the local PC's certificate store

If your version of Aurora does not have the "Import Into Store" button, or the certificate status indicates the import was not successful, you must Export the certificate and Import it manually. This process is outlined in steps 4-8.

4. After a few seconds, the button will change to "Export CA root certificate". When this occurs, click the button.
5. The Export file path window will appear. Select the Browse button to choose the file path where you'd like to store this file. Give the file an appropriate name, then click Save. Click the Export button to complete the process.
6. Navigate to the computer file path from the previous step where you saved the Root Certificate. Right-click the file and select "Install Certificate"
7. Follow the steps in the Certificate Import Wizard:
  - a. Store Location > select "Local Machine"
  - b. To set your Certificate Store, select "Place all certificates in the following store", then click Browse.

- c. Locate the "Trusted Root Certification Authorities" store, then click OK
- d. Click Next
- e. Review the information on the screen, then select "Finish" when complete.

8. A window will pop up, confirming successful installation. Click the OK button.
9. In Aurora, click "Save" on the Applications Utilities page to save your certificate settings.

To create an **E-Plex Server Certificate** (\*PFX Certificate), perform the following steps:

1. From the main menu, click the "Settings" icon, then click "Application Utilities"



2. In the Security tab, type the server IP/hostname in the space provided, then click "Create new certificate"



A new certificate bearing the server IP/hostname will appear onscreen.

3. When running Aurora as an Administrator, an "Import Into Store" button will appear next to each certificate the user creates in Certificate Management. When clicked, the certificate will be added to the local PC's certificate store. The icon next to each certificate indicates its current state, as described previously. If your version of Aurora does not have the "Import Into Store" button, or the certificate status indicates the import was not successful, you must Export the certificate and Import it manually. This process is outlined in steps 4-8.
4. Click the Export PKC5 file button.
5. The Export filepath window will appear. Select the Browse button to choose the file path to your computer. Name the file and select Save once a path and name are finalized. Input a password and select Export.
6. Navigate to the computer file path from the previous step where you saved the certificate. Right-click the file and select "Install PFX"
7. Follow the steps in the Certificate Import Wizard:
  - a. Store Location > select "Local Machine"
  - b. Confirm that the file location is correct, then click Next
  - c. Type your password in the space provided (the one from step 6), then click Next

# 5 Programming and Software Setup - Aurora

## E-Plex Server Certificate Setup (Aurora) continued...

- d. To set your Certificate Store, select "Place all certificates in the following store", then click Browse.
  - e. Locate the "Personal" store, then click OK
  - f. Click Next
  - g. Review the information on the screen, then select "Finish" when complete.
8. A window will pop up, confirming successful installation. Click the OK button.
  9. In Aurora, click "Save" on the Applications Utilities page to save your certificate settings.

## 5.6.4. Assigning E-Plex Locks to a Gateway (Aurora)

Note: For the steps in this section, all doors/locks must be in Factory Default mode. You will need the physical door/lock key, a Reset to Factory command card, and a Master User card (if available).

To return a door/lock to Factory default mode (erase lock data, stored user credentials, etc.), perform the following steps:

### Factory Defaulting a lock (with a Master User Card)

1. At the door/lock, insert the mechanical key and turn it clockwise.
2. With the key still in the clockwise position, present the Reset to Factory command card. The LED will begin blinking Green.
3. While the LED is blinking Green, present the Master User card.
4. The door/lock will reboot and return to Factory Mode.

### Factory Defaulting a lock (without a Master User Card)

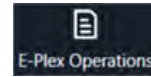
1. At the door/lock, insert the mechanical key and turn it clockwise
2. With the key still in the clockwise position, present the Reset to Factory command card. The LED will begin blinking Green.
3. Allow the door/lock to timeout (after 10 seconds), which will occur when the LED blinks Red.
4. Wait 15 minutes. Every minute, the lock will flash its Green LED once, followed by its Red LED. During this 15 minute wait, the lock will not respond to any card presentations.
5. Once the 15 minutes expire, present the Reset to Factory command card as the Green and Red LEDs flash alternately (you only have a 20 second window to do this).
6. The door/lock will reboot and return to Factory Mode.

## 5.6.5. Joining a Lock to a Gateway (Aurora)

1. From the main menu, select the "Status" icon, then click "Status"



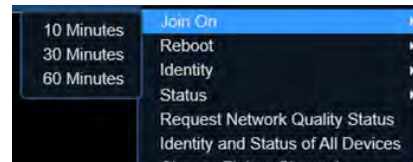
2. The left side of the Status screen contains several useful widgets that are used to monitor and control various aspects of your site. Locate and open the "Gateway Status" and "E-Plex Operations" widgets



Note: These widgets will not appear in Status if you have not already created an E-Plex Door Group

3. On the Gateway Status widget, locate your Gateway and right-click to open the dropdown menu. Select "Join On", then choose a Join On Time. Since future steps will require you to walk to each door/lock that you want to join, ensure you choose a long enough Join On time to complete your setup.

Note: Only one gateway should be in Join On mode at a time.



4. Wait until the Gateway enters Join On mode. You should receive a Successful message in the E-Plex Operations widget, and the Join Status in the Gateway widget should switch to "Join On"
5. From the main menu, select the "Site Management" icon, then click "Hardware Setup"



6. Select a site from the list provided
  7. Select the "Door Groups" tab, then use the drop-down menu to select the E-Plex Door Group that the new E-Plex door/lock belongs to
  8. Choose an E-Plex Door you wish to join, and under "E-Plex Door Details", locate and click the "Default ZAC" button. This sets the ZAC to 10801080.
- Note:** Only one lock can be set to Default ZAC at a time.



9. Click the Save button.
10. Walk to the door/lock and present the ZAC Command Card. The reader will blink Green and Red continuously while attempting to access the Zigbee network. If successful, the LED will blink Green, completing the ZAC process. If unsuccessful, the LED will blink Red. If unsuccessful, try presenting the ZAC Command Card again. If this fails, review the previous steps to ensure your setup is correct.

# 5 Programming and Software Setup - Aurora

## Joining a Lock to a Gateway (Aurora) continued...

11. Repeat steps 8 to 10 for each door/lock you wish to join to your Gateway.
12. If you have locks you wish to join to a different Gateway, return to the Status screen and place this Gateway in "Join On" mode, then join each lock as described in the previous steps. Newer versions of Aurora only allow you to place one Gateway in "Join On" at any given time, so you might have to place any other Gateways in your site to "Join Off" first if they have not already timed out.
13. Once you have joined all of your E-Plex doors/locks, return to the Status screen and place each of your Gateways back to "Join Off" if they have not already timed out.

# 5 Programming and Software Setup - M-Unit

## 5.7 M-Unit for Offline Lock Setup

### 5.7.1 About The M-Unit

The M-Unit is a handheld diagnostic and configuration file transfer tool designed to be used with E-Plex locks that conform to the most recent versions of both the Aurora and LUNA software clients. The M-Unit can help set up offline E-Plex locks by gathering data from the Aurora/LUNA client and transferring it to the lock.

This device can also transfer audit trails and be used as a site survey tool.



This section focuses on using the M-Unit to setup and program E-Plex 7900 locks (Offline Lock setup), and touches on some of the additional tools for wireless lock setup.

For more information about the M-Unit specifications, functionality, and working with other lock types, refer to the M-Unit User Guide (KD10093-E).

### 5.7.2 Transferring the Program File to the M-Unit

Once you have successfully created a Program File using Aurora/LUNA software (outlined in previous section), perform the following steps to transfer this file onto the M-Unit:

1. Connect the programming cable from the M-Unit to the USB port of the computer
2. Press and hold the M-Unit's power button on the bottom-left corner of the keypad to power up the M-Unit
3. Enter the Admin password using the M-Unit keypad, then press the ENTER button. (The default out-of-the-box password for the M-Unit is "000")
4. On your computer, use the Windows Explorer menu to locate and open the E-Plex M-Unit folder
5. Copy and Paste the E-Plex Door Program file you created previously, then Copy and Paste it into the E-Plex M-Unit folder. Note: this file must be placed in the root folder; the M-Unit cannot read files in sub-folders.
6. Safely disconnect the USB cable from the computer as per your PC's operating system requirements for ejecting media devices

### 5.7.3 Programming E-Plex Locks (Offline Lock Setup)

To program a lock, the lock must first be placed in Communications mode. Once in Communications mode, you have a 30-second window during which you can program the lock. This procedure requires the use of Command Cards. Refer to the "E-Plex 7900 Command Cards User Guide" (KD10090-E) for more information.

To place an E-Plex 7900 lock in Communications mode, perform one of the following steps depending on which mode the lock is in:

1. If the lock is in Factory mode:  
Present the Factory Communication command card to the door reader to initiate Communications Mode. The door lock can now communicate with the M-Unit.
2. If the lock is in Full Feature mode:  
A user with Master or Manager privilege can present the Communication card followed by their User Access card to the door lock reader. An M-Unit credential can also establish communication. The door lock can now communicate with the M-Unit.

### 5.7.4. Transferring Program File to the Lock

To program the E-Plex lock with the data transferred from the Aurora/LUNA software client to the M-Unit, perform the following steps:

Note: If the 30-second window expires at any point during this process, simply repeat the procedure.

1. Attach the Programming Unit Adaptor onto the lock by mounting it to the top of the lock, over the card reader, using the arms to secure it in place. Insert the other end of the cable into the serial port on the bottom of the M-Unit.
2. Power up the M-Unit and enter your login information and password.
3. From the M-Unit's main screen, select "Door" by pressing the left-most arrow button directly below the Door icon on the screen.
4. Choose "Program" by either pressing the corresponding number on the M-Unit keypad or by scrolling through the menu options with the up/down arrows and pressing the ENTER button.
5. Choose the data file you wish to program onto the lock by using the up/down arrows to highlight the file name then pressing ENTER. The M-Unit will then decrypt the file, which will take a few seconds.
6. The screen will display "Put Lock into Communications mode". If your lock wasn't placed in Communications Mode or has timed out, follow the procedure as described earlier in this section.
7. Select "OK" by pressing the right-most arrow button below the screen. "Writing Lock Config" appears onscreen while the M-Unit programs the lock.
8. "Programmed Successfully" will display onscreen upon completion. Select OK by pressing the right-most arrow button below the screen to return to the main menu. Programming is now complete.

# 5 Programming and Software Setup - M-Unit

## 5.7.5. M-Unit Audits

The M-Unit can be used to extract the transaction history from an offline lock to be saved elsewhere and viewed using the LUNA/Aurora software. This section outlines the process of auditing an E-Plex 7900 lock.




**WARNING:** Prior to Auditing a lock, please do the following:

- Read the following steps carefully. Interruption to the lock auditing process may produce undesirable consequences to the lock itself.
- Ensure that the M-Unit battery has enough power to complete the Audit process. For best results, leave the M-Unit powered/plugged in via the USB cable while auditing your lock.

## 5.7.6. Auditing an E-Plex 7900 Lock

1. Power up the M-Unit and enter your login information and password.
2. From the M-Unit's main screen, select "Door" by pressing the left-most arrow button directly below the Door icon on the screen.
3. Select "Audit" by either pressing the corresponding number on the keypad or by scrolling through the options with the up/down arrows and pressing the ENTER button.
4. Choose the data file previously programmed onto the lock by scrolling through the options with the up/down arrows and pressing the ENTER button. The M-Unit will take a few seconds to decrypt the file.
5. After decryption, you will be asked to select the amount of audits. Select from 100, 1000, or ALL by pressing the corresponding arrow button below the M-Unit's display screen.
6. The screen will display "Put Lock into Communications mode". If your lock wasn't placed in Communications Mode or has timed out, follow the procedure as described earlier in this document.
7. Attach the Programming Unit Adapter onto the lock by mounting it to the top of the lock, over the card reader, using the arms to secure it in place. Insert the other end of the cable into the serial port on the bottom of the M-Unit.
8. Select OK by pressing the right-most arrow below the M-Unit's display screen. "Retrieving Audits" is displayed on screen while the M-Unit pulls transactions from the lock.
9. "Audit success!" will appear on screen upon completion of the audit. Select OK by pressing the right-most arrow below the M-Unit's display screen to return to the main menu.


## 5.7.7. Viewing Audits (LUNA)

1. Plug the USB side of the cable into the USB port of the computer and the USB Mini-B side of the cable into the USB port on the M-Unit.
2. Open the LUNA software client and enter a valid password. If you haven't changed your password, the default Keyscan generic password out of the box is KEYSKAN (in all caps as shown).
3. Click the LUNA main menu icon in the upper left corner  then click the "Settings" icon. 
4. Under "E-Plex Settings", click the "Import Transactions" button. 
5. Navigate through your computer to find the E-Plex M-Unit folder (When plugged in to the computer, the M-Unit should appear as a new drive). Select the Audit file you wish to view and click Open. The Audit file will be named "AUD" plus the name you gave the corresponding E-Plex Door in the LUNA software. "Importing Audits" will be displayed as the file is being uploaded (this may take several minutes)
6. Upon completion, all Audit information can now be viewed when creating a Transaction report. To create a Transaction report, click the LUNA main menu icon in the upper left corner, then select "Transaction Report". Please consult the LUNA Online Help by pressing F1 on your keyboard for more information on setting up and running a Transaction Report.

# 5 Programming and Software Setup - M-Unit

## M-Unit Audits (continued...)

### 5.7.8. Viewing Audits (Aurora)

1. Plug the USB side of the cable into the USB port of the computer and the USB Mini-B side of the cable into the USB port on the M-Unit.
2. Open the Aurora software client and enter a valid username and password.
3. From the main menu, select the "Settings" icon  then click "Application Utilities"
4. Click on the "E-Plex Utilities" upper tab
5. Click the "Import Offline Lock Audits" button, located in the Offline Locks section at the bottom of the screen
6. Navigate through your computer to find the E-Plex M-Unit folder (When plugged in to the computer, the M-Unit should appear as a new drive). Select the Audit file you wish to view and click Open. The Audit file will be named "AUD" plus the name you gave the corresponding E-Plex Door in the Aurora software. "Importing Audits" will be displayed as the file is being uploaded (this may take several minutes)
7. Upon completion, all Audit information can now be viewed when creating a Transaction report. To create a Transaction report, click the "Reports" icon on the Aurora main menu, then select "Transaction Report".



For more information on setting up and running a Transaction Report, please consult the Aurora Online Help by pressing F1 on your keyboard.



# 5 Programming and Software Setup - M-Unit

## 5.8. M-Unit Tools for Wireless Locks

### 5.8.1. Site Survey

Site Survey is required when setting up wireless E-Plex Locks to determine the best setup. Prior to installing a lock, the signal strength of a ZigBee network must be identified to best measure where to place a Gateway.

### 5.8.2. Site Survey Guidelines

Observe the following guidelines prior to performing a Site Survey:

- Floor plans need to be prepared. This step requires the planner to:
  - Identify all online lock locations
  - Decide on redundancy options: no redundancy or path redundancy
  - Validate power source availability for Gateways and Routers (adapter or PoE)
  - Decide on Gateway communication: USB (direct) or Ethernet (TCP/IP Network)
  - Determine the physical server location; this is only required if the Gateway is to be connected to the server via USB. If the Gateway is using a USB connection, the server location must be within 15 feet of the Gateway.
- For new construction properties, perform the Site Survey when the building is as close to finished as possible to help avoid inaccurate results
- No Gateway or Router should exceed 25 locks within its RF range
- When performing a Site Survey, position the Test Gateway in the orientation that the final Gateway or Router will be installed (e.g. horizontally in a drop ceiling, vertically mounted to a wall, etc.). To maximize the range of the Gateway/Router, position it horizontally (label facing upwards)
- Humid climate conditions, waterfalls/fountains can block and/or weaken ZigBee communication
- Do not place the Gateway near elevators, stairwells, steel doors, or other large metal structures
- When testing signal strength at the door, first check signal strength on both sides of the door to determine antenna choice (inside or outside mount), Second, check the signal strength with the door open and closed
- Do not place a Gateway in a closet or any other area where there is ductwork, electrical panels, other large metallic equipment, steel doors, etc.
- The ZigBee signal does not bend around corners constructed of concrete and/or metal framing. You may need to place a Gateway on each side of a corner
- If the Gateway is to be installed inside a room, then perform the Site Survey with the room's entry door closed
- If you are placing the Gateway inside of an existing access panel, ensure that the panel is closed, and the Gateway is in the correct position before testing
- If the property has or will be installing Wi-Fi access points, ask for a markup of the locations. When placing the Gateway for survey, keep Gateway and Wi-Fi access points a minimum of 6 feet apart

### 5.8.3. Gateway Configuration for Site Survey - Join On Mode

Before performing a Site Survey, the E-Plex Gateway must first be put into Manual Join On Mode. To put an E-Plex Gateway into Manual Join On Mode, do the following:

1. If your Gateway/Router is not factory defaulted, press and hold the reset button on the Gateway as you plug the Gateway into the USB port of the computer. Release the reset button once a USB connection is made. The Gateway will flash its green and red LEDs repeatedly.
2. When the Gateway flashes only green, press the reset button on the side of the Gateway 3 times within 3 seconds. After several seconds, the green and red LEDs will blink on and off together, indicating Join On Mode.

**NOTE:** Manual Join On Mode lasts 10 minutes

### 5.8.4. Scan Network

The M-Unit can scan the surrounding area to determine available ZigBee network(s). Follow these steps to scan for ZigBee network(s):

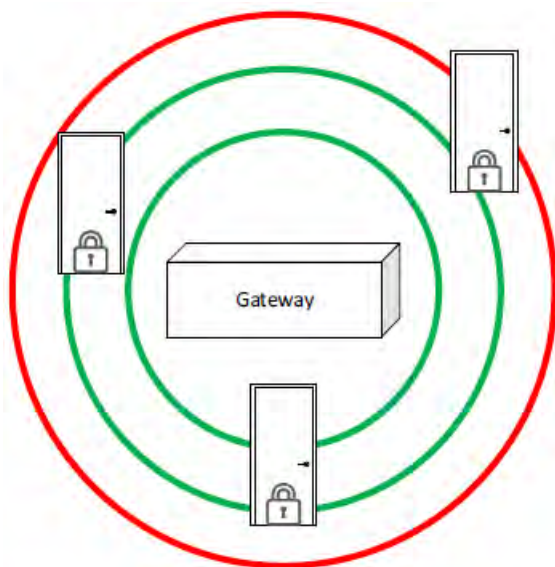
1. From the main screen, select Wireless by pressing the middle arrow button below the screen.
2. Choose Scan Network by either selecting the corresponding number on the number pad or by scrolling through the options with the up and down arrow buttons and selecting with the ENTER button.
3. Select Scan by pressing the middle arrow button below the screen. After a few seconds, the M-Unit will display all available ZigBee network(s).
4. Scroll through the different networks by selecting either Prev or Next with the leftmost and middle arrow buttons below the screen. Any network displayed with a Allowing Join value of 1 will be used to ping a network. **Note:** Scanning ZigBee network(s) only provides static information and cannot be altered from this screen.
5. Select Done by pressing the right-most arrow button below the screen. Return to the main menu by pressing the Home button twice on the bottom-right of the number pad.

# 5 Programming and Software Setup - M-Unit

## 5.8.5. Ping Network

To determine correct lock placement in comparison to Gateway location, the M-Unit can ping a ZigBee network to determine signal strength from the Gateway. Follow these steps to ping a ZigBee network:

1. From the main screen, select Wireless by pressing the middle arrow button below the screen.
2. Choose Ping Network by either selecting the corresponding number on the number pad or by scrolling through the options with the up and down arrow buttons and selecting with the ENTER button.
3. Select Ping by pressing the left-most arrow button below the screen. After a few seconds, the M-Unit will identify the closest ZigBee network. If the M-Unit fails to find a ZigBee network, try the test again by pressing the left-most arrow button below the screen to select Ping. If multiple attempts fail, troubleshoot the Gateway hosting the ZigBee service.
4. A bar will illuminate on screen identifying the ZigBee signal strength as either Very Good, Good or Unacceptable. View the illustration below for varying signal strength indicators. It is recommended to stay within the Green range to limit service interruptions to the lock. If the range is within the Red area, either move the Gateway closer to the lock, or add an additional Gateway to extend the range. Once an acceptable range is decided, install the E-Plex lock at the desired location.



Very Good = Lower than -65db

Good = Between -65 and -75db

**\*Weak (Unacceptable) =  
Higher than -75db**

\*an additional Gateway may be  
required to increase signal strength

## 5.8.6. Diagnosing an E-Plex 7900 Lock

1. From the main screen, select Door by pressing the left-most arrow button below the screen.
2. Choose Diagnostic by either selecting the corresponding number on the number pad or by scrolling through the options with the up and down arrows and selecting with the ENTER button.
3. Choose 79xx Series by either selecting the corresponding number on the number pad or by scrolling through the options with the up and down arrows and selecting with the ENTER button.
4. The screen will display Put Lock into Communications Mode (see section 5.7.3 of this document)
5. Attach the Programming Unit Adaptor onto the lock and attach the other end into the serial port of the M-Unit.
6. Select OK by pressing the right-most arrow button below the screen. Initializing Comms is displayed on screen while the M-Unit diagnoses the lock.
7. Upon completion, the following information is displayed:
  - a. Lock Model – Displays the E-Plex lock model
  - b. Firmware Version – Shows the current firmware version of the lock
  - c. Battery Voltage – Displays the lock's battery voltage
  - d. HW Voltage – Shows the lock's hardware voltage
  - e. Lock Function – Displays the lock function between Entry, Residence and Privacy
  - f. BLE Version – Shows if the lock is BLE-enabled
  - g. Lock Date – Displays the current date and time of the lock pulled from the MUnit when the door is programmed
8. Select OK by pressing the right-most arrow button below the screen and return to the main menu.



## 6 Operating the Electronic Override

### IMPORTANT

If the lock will not respond to any keycard (including the Emergency keycard), there are four options that should be attempted to open the door. In order, they are:

1. Check voltage of batteries, and replace them if they are providing less than 4 Volts. Use the Emergency keycard.
2. Use the electronic override feature (requires FDU and communication cable or ATLAS M-Unit and IPM).
3. Use mechanical key override if locking system has one (see section 7, step 8).
4. Contact Technical Support for instructions on using the drill point.

# 7 Installation of Mechanical Override Models

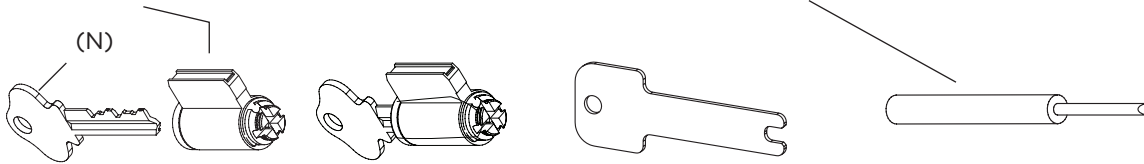
## Parts and Tools List

**NOTE:** For the purposes of Section 7 use the naming convention listed below in Parts and Tools List and Diagram of lock.

### Tools Required:

Cylinder (J, provided with lock) or equivalent

(T) Small flat screwdriver (less than 1/8")



### Diagram of lock:

(A) Lock housing

(B) Inside drive hub

(C) Nylon washer

(D) Spring washer  
(not for lever feel)

(E) Drive tube

(F) Lever catch

(G) Countersink

(H) Lever handle

(I) Cap

(J) Cylinder

(K) Cylinder plug

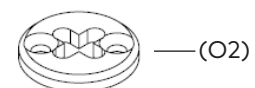
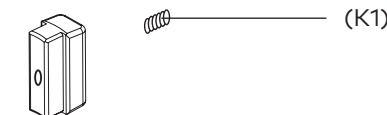
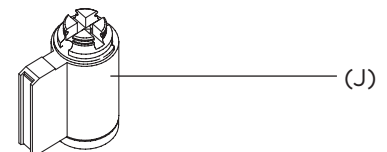
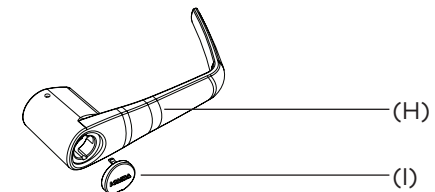
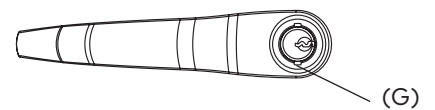
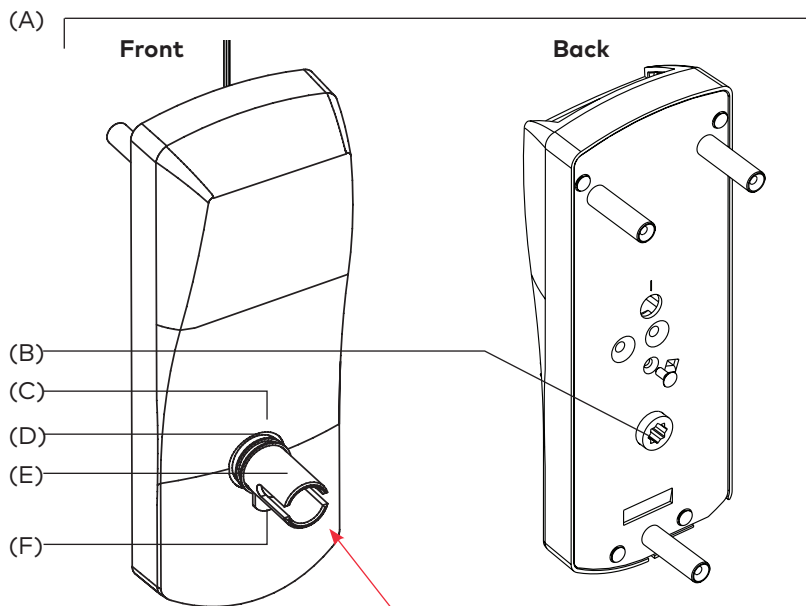
(K1) Set Screw

(M) Allen Key

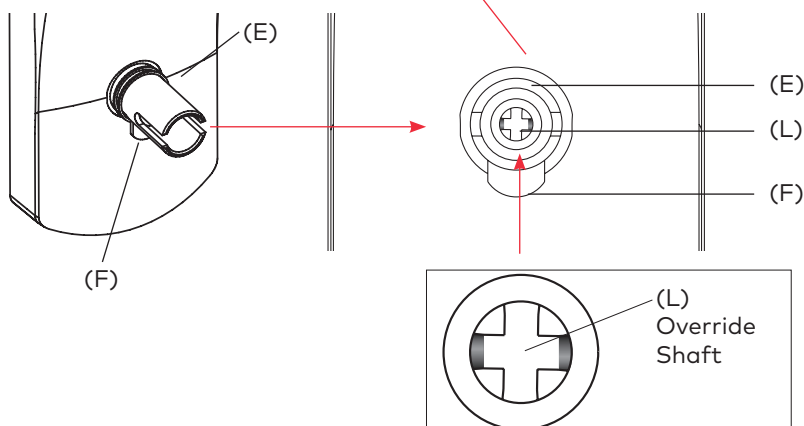
(O1) Adapter

(O2) Adapter & Screw

(L) Override shaft



### Facing view of drive tube: (E)



# 7 Installation of Mechanical Override Models

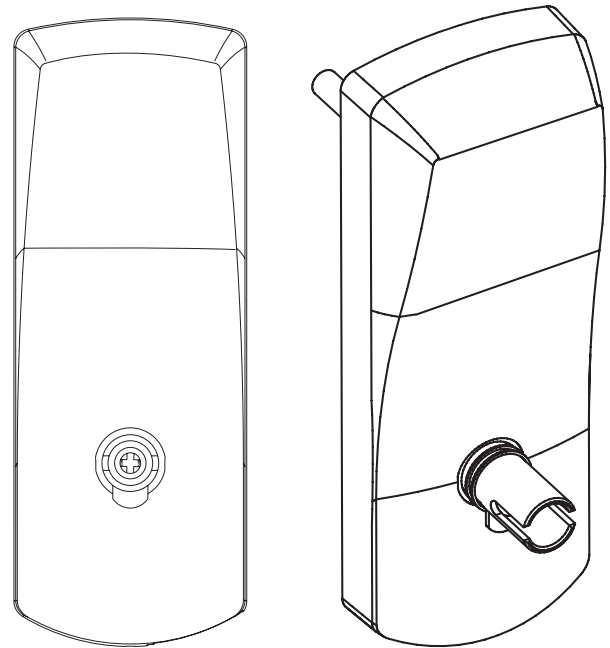
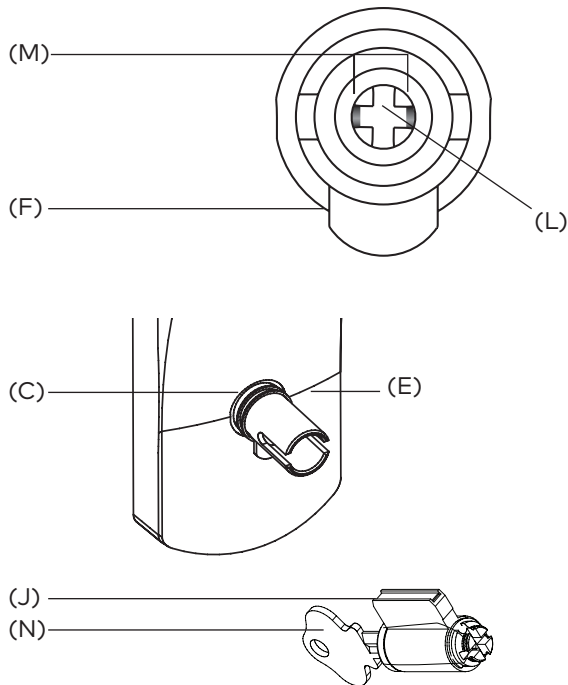
## 1. Upon unpacking, the lock housing with mechanical override should look like the diagram below with:

- (M) The small indents on the cross of the override shaft in line horizontally
- (F) The nylon washer and the spring washer (not for lever feel) on the drive tube
- (C) The lever catch in the out position
- (F) The lever catch in the out position

(J) Cylinder and 2 keys for 660 K/C included in the hardware bag

### IMPORTANT

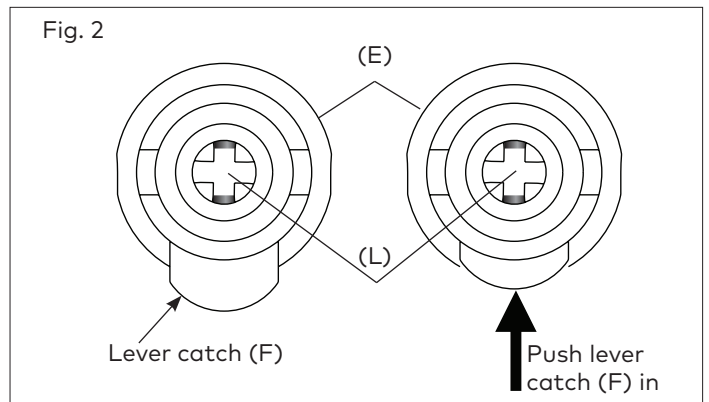
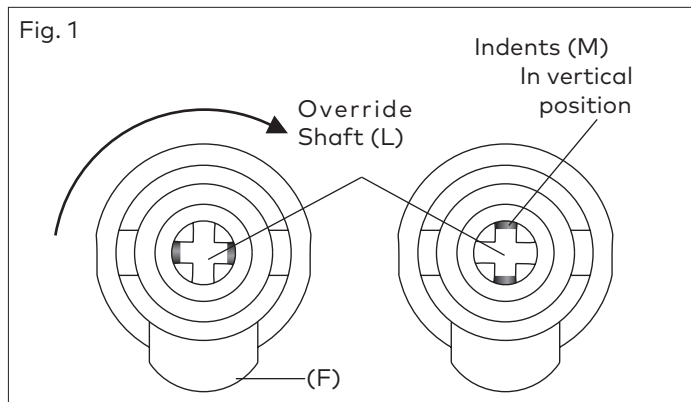
Assemble the lever, cylinder and lock components before affixing the entire unit to the door.



## 2. Preparing the outside housing for the installation of the lever handle

1. Insert the cylinder (J) to be used as a tool or equivalent tool to rotate the override shaft (L) and turn it clockwise until it stops so that the two small indents (M) on the cross are now vertically in line. (Fig.1)

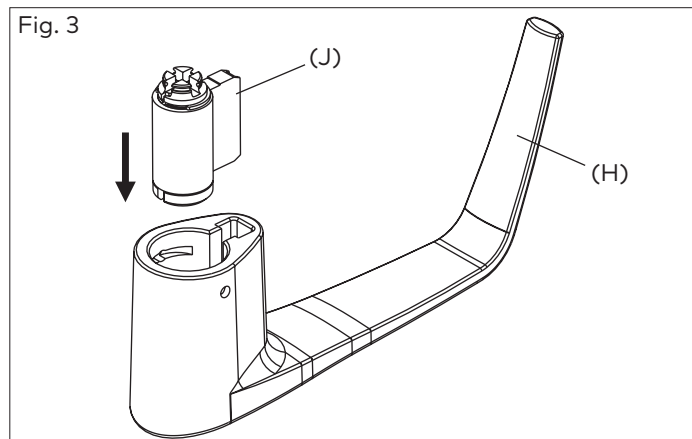
2. Push in the lever catch (F) firmly. (see Fig. 2) to be flush with drive tube diameter



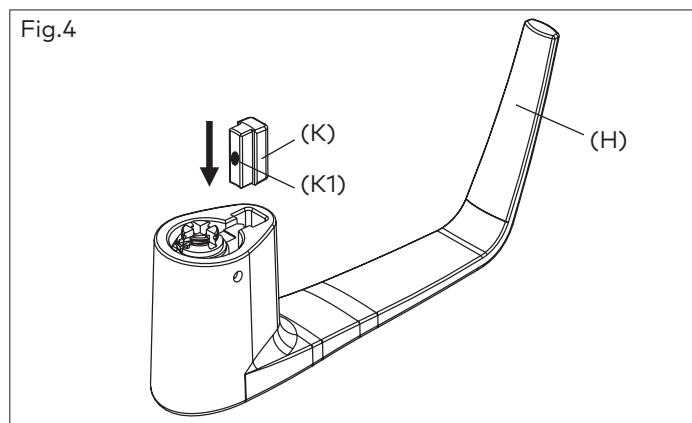
# 7 Installation of Mechanical Override Models

## 3. Preparing the lever handle and cylinder for installation

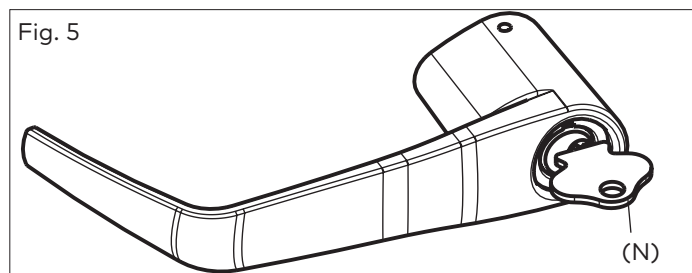
3. Insert the cylinder (J) without key (N) into the lever handle (H) (see Fig.3)



4. Insert plug (A) including Set Screw (K) into lever handle (H) (See fig.4)



5. Insert key (N) into cylinder (J). Hold plug (K) in position. (See Fig. 5).



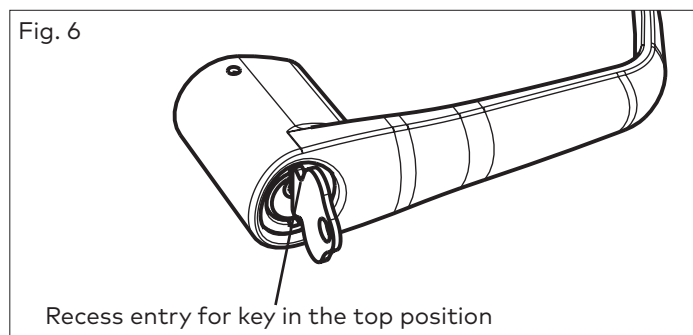
### ⚠ CAUTION

If the Lever is Not Assembled with the key in the position shown in Fig. 6 & Fig. 7, the inside mechanism of the lock could be damaged if the lever is rotated and forced.

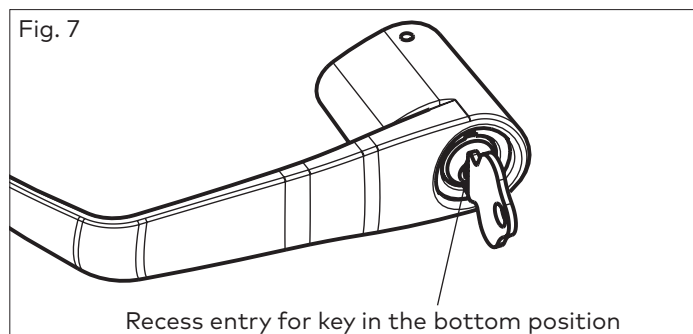
## 4. Steps to attach the lever handle to the lock housing

**NOTE:** the position of the key is very important

6. Right-handed Lever handle: Turn the key (N) approximately to 100° clockwise so that it is in the vertical position and the recess entry for key is in the top position. (See Fig. 6)



Left-handed lever handle: Turn the key (N) approximately to 100° clockwise so that it is in the vertical position and the recess entry for key is in the bottom position. (See Fig. 7)



### IMPORTANT

The key (N) and the recess entry for key must be in the positions shown in Figs 6 & 7 before placing the lever handle on the housing or the lever and the override mechanism will not work.

### Troubleshooting:

If you have assembled the lever and housing with the key (N) in the wrong position, the key (N) will get stuck. To remove the key (N), turn it so that it is in the vertical position and insert a small flat screwdriver (T) (see page 18) into the hole under the lever handle to push Lever Catch (F) in (see page 19 Fig. 2). Remove lever, remove key. If it is still stuck, turn the key 90° clockwise to the horizontal position and push the Lever Catch (F) in again with the small screwdriver (T). Remove key (N).

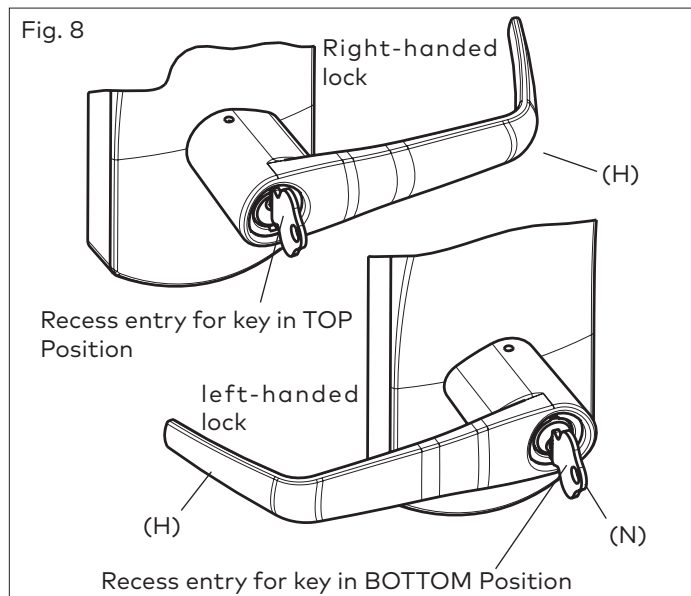
# 7 Installation of Mechanical Override Models

## 5. Attaching the Lever Handle to the Lock (with the key as shown in Fig. 6 & Fig. 7)

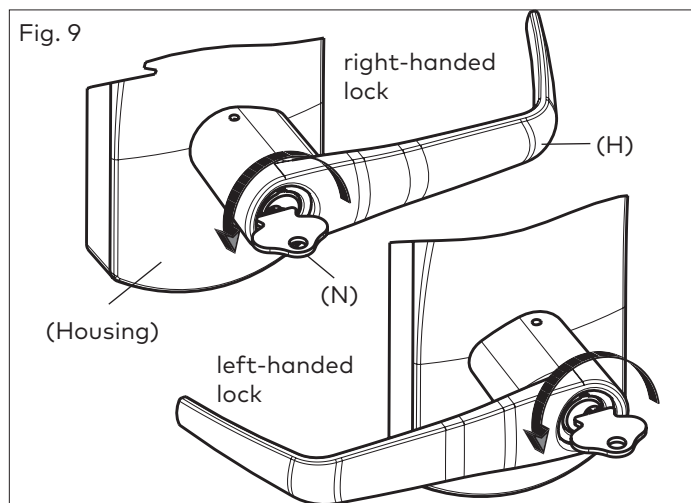
7. Fit the lever handle (H) onto the drive tube (E) see page 34. It should rest approximately 1/16" from the body of the housing. If not, wiggle and jiggle key (N) to align cylinder (J) with override shaft (L)(See Fig. 8)

If it can't be pushed that close to the housing, the lever catch (F) is probably not pushed in. Push it in. (see fig 2 page 35)

If the lever catch (F) is stuck, the override shaft (L) is in the wrong position. (see fig 2 page 35) The two small indents (M) on the cross of the override shaft (L) must be vertically aligned as in fig 2 page 35



8. Press the lever (H) firmly against the housing while turning the key (N) counterclockwise (**this applies to both right-handed and left-handed locks**) until it is in the horizontal position. (Fig. 9)

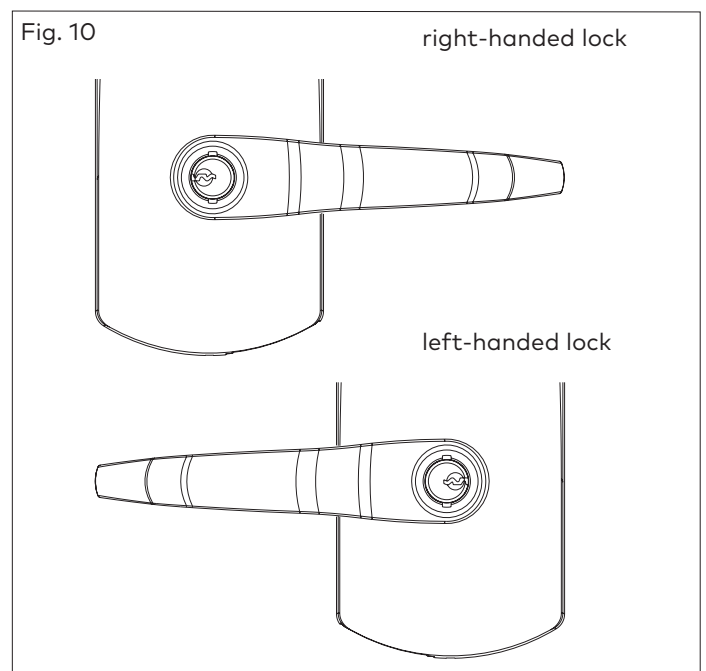


## IMPORTANT

If it is not possible to turn the key (N) counter-clockwise to complete this step, the spring washer (D, see page 34) may be too tense: (Not for lever feel)

Hit the lever carefully with a rubber mallet to loosen the spring washer (D). (you may want to cover the lever handle (H) with a cloth or other material to protect the finish of the metal)

9. Remove the key (N). The lock will look as shown in Fig.10.



**Gently** check the rotation of the lever handle (H). It should easily rotate approximately 45°.

## Troubleshooting:

**Right-handed Lock:** Turn the lever handle (H) clockwise without forcing it. If it stops at approximately 15°, it was not assembled correctly as shown in step 4 (Fig. 6 & 7). **Do not try to force it to turn.** Release the lever handle (H). Insert the small screwdriver (T, page 34) into the small hole on the underside of the lever handle (H) and push in the lever catch (F) see page 35. Re-do steps 2, 3, 4 & 5.

**Left-handed Lock:** Turn the lever handle (H) counter-clockwise without forcing. The drive hub (B) (Fig.12 page 38) should not rotate when the lever handle (H) is turned. If it does, it was not assembled correctly as shown in step 4 (Fig. 6 & 7). Release the lever handle (H). Insert the small screwdriver (T, page 34) into the small hole on the underside of the lever handle (H) and push in the lever catch (F). Re-do steps 2, 3, 4 & 5.

# 7 Installation of Mechanical Override Models

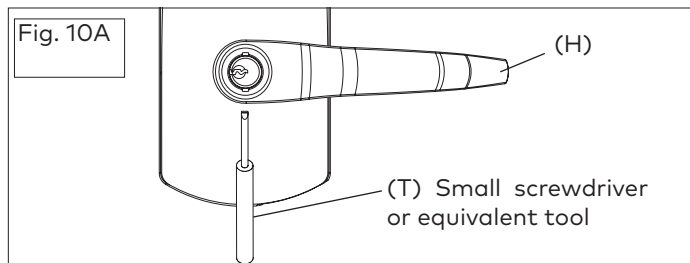
## 6. Verify the attachment of the lever handle

### IMPORTANT

To verify that the lever handle has been correctly attached to the housing:

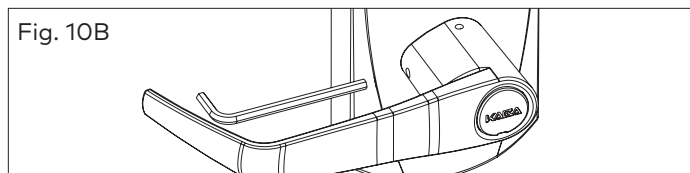
10. Remove key (N)
11. Insert a small flat screwdriver (tool T, page 34) into the hole on the underside of the lever handle (H) and push in the lever catch (F) see fig 10A.
12. Pull on the lever handle (H).

You should not be able to remove the lever handle (H). If it comes off of the housing, you did not assemble the lock correctly. Return to steps 2, 3, 4 & 5 and make sure that the lever (H) looks like Fig. 10 and repeat this verification process. (Step 6)



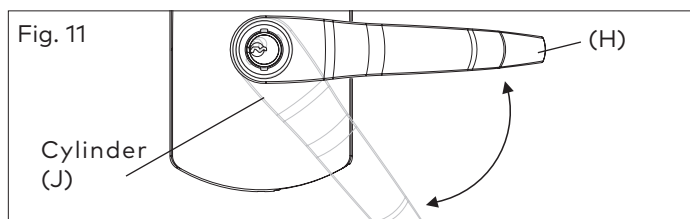
### 6a. Adjust the lever feel

If applicable, to reduce the lever play, using the 5/64 Allen key (P1), tighten the set screw (O1) while pushing the lever against the front housing. Make sure the lever rotates properly after tightening the set screw (O1) See fig 10B.



## 7. Test the movement of the lever handle (remove the key (N) in cylinder (J))

13. Turn the handle (H) clockwise (for a right-handed lock) or counter-clockwise (for a left-handed lock)
14. Release the handle (H) slowly. It should return freely to its horizontal position. (Fig.11)

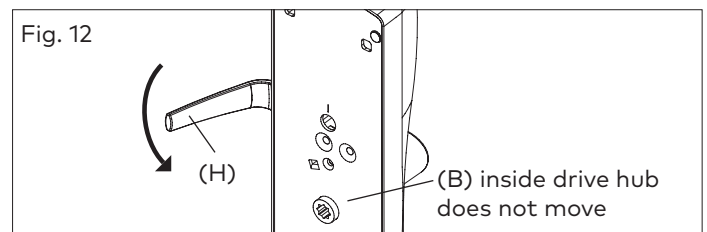


## 8. Test the mechanical override function (Complete all tests in Section 4, pages 13 & 14 after lock is assembled on the door)

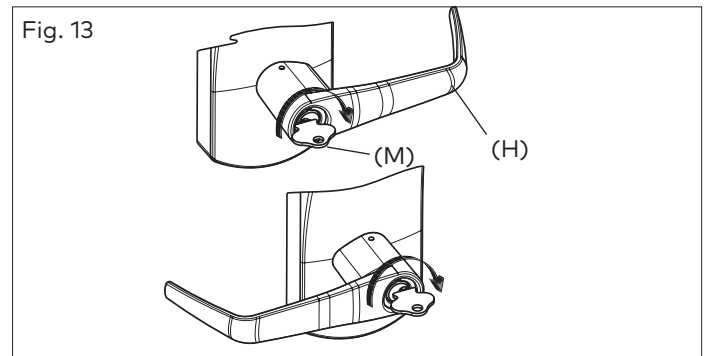
### IMPORTANT

This test can only be performed when the lock is not affixed to the door.

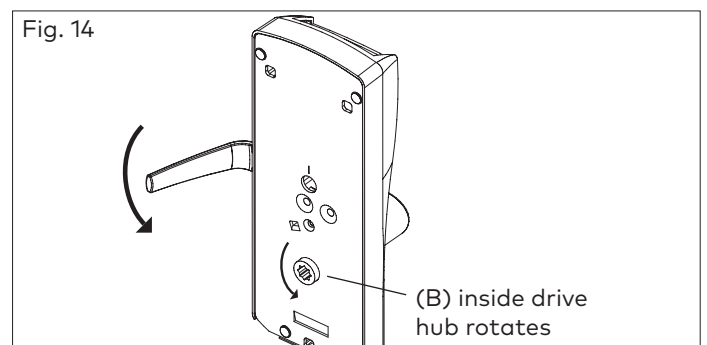
15. Without using the key (N), turn the lever handle (H) clockwise (for Right-handed locks) or counter-clockwise (for Left-handed locks). The inside drive hub (B) should not rotate when the handle (H) turns. (Fig. 12)



16. With the lever handle (H) in the horizontal position, insert the key (N) into the cylinder (J) and turn it clockwise **until it stops**. (This applies to both Right and Left-handed locks, see Fig.13)



17. Let go of the key (N), and again turn the lever handle (H) clockwise (for Right-handed locks) or counter-clockwise (for Left-handed locks). Now the inside drive hub (B) should rotate in the same direction as the lever handle (H) when it is turned. (Fig. 14)



# 7 Installation of Mechanical Override Models

## Test the Mechanical Override Function (continued)

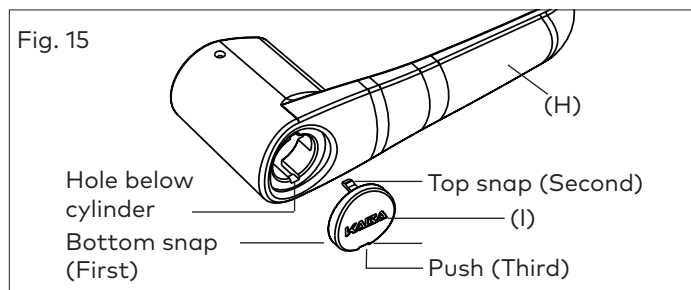
### IMPORTANT

Verify the functionality of the override after the lock is installed on the door: (Door must be opened)

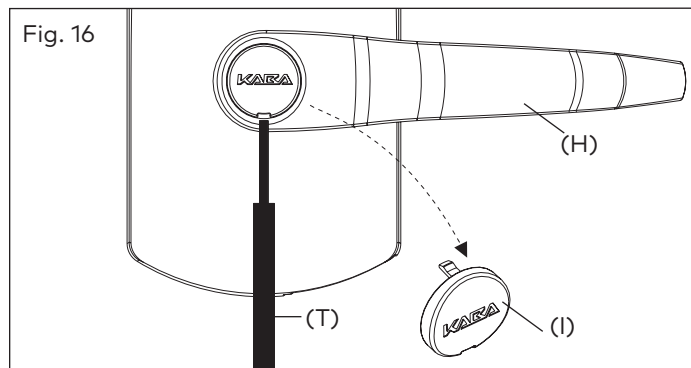
18. With the door open, insert key (N) in cylinder (J) and turn it clockwise **until it stops**.
19. Let go of the key (N) and turn the lever handle (H) (clockwise for right-handed and counter-clockwise for left-handed locks). **The latch must retract**.
20. Extend deadbolt and repeat the above operation (turn key (N) clockwise until it stops), latch and deadbolt must retract completely.

### 9. cover the keyhole & cylinder with the cap

21. The cap (I) has a small groove on one edge (to allow ease of removal) this should be facing down. Insert bottom snap of cap (I), (see page 34) in handle hole below the cylinder (J). With a small screwdriver, push top snap of cap down while pushing the cap (I) into place to cover the keyhole (Fig. 15)

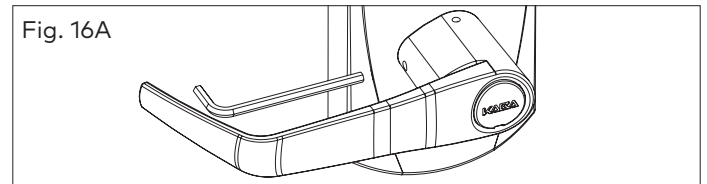


22. To remove the cap (I), insert a small flat screwdriver into the groove and gently pry the cap off, being careful not to damage it. (You may want to cover the bottom of the lever to protect the finish from being scratched through the process of removing the cap). (Fig.16)

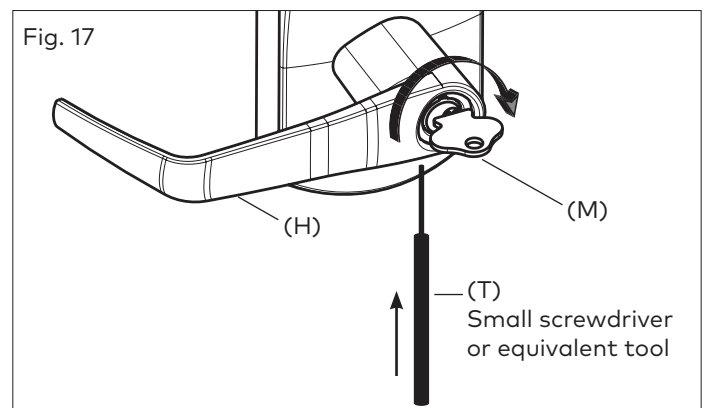


### 10. How to change lock cylinders

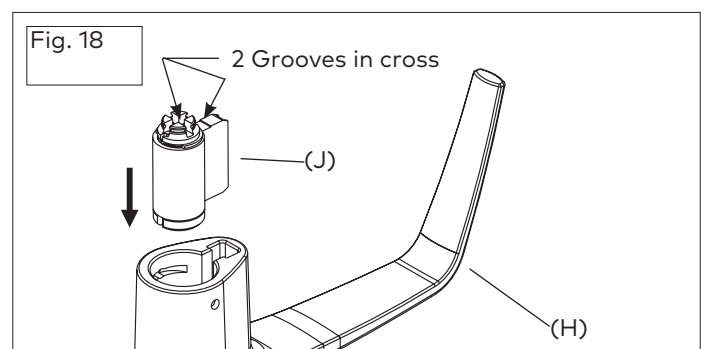
- 22a. Loosen the set screw (O1) to free the lever using Allen Key (P1) (Approx. 1/4 turn).



23. Remove the cap (I) from the lever handle (H) (see step 23, Fig. 16).
24. Insert key (N).
25. Turn the key (N) clockwise until it stops.
26. Release key (N).
27. Use a small flat screwdriver to push in the lever catch (F) through the small hole underneath the lever handle (H) (Fig. 17).



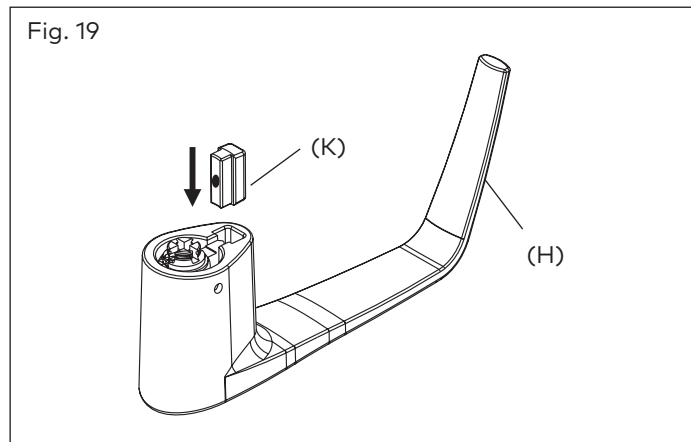
28. Pull the lever handle (H) off of the lock housing (be careful not to lose the cylinder plug (K) see page 34).
29. Replace the old cylinder with the new one in the lever handle (H). Only same kind of cylinder with 2 grooves in cross, in the end of the cylinder plug could be used on the locks. (Fig. 18)



# 7 Installation of Mechanical Override Models

## How to change lock cylinders (continued)

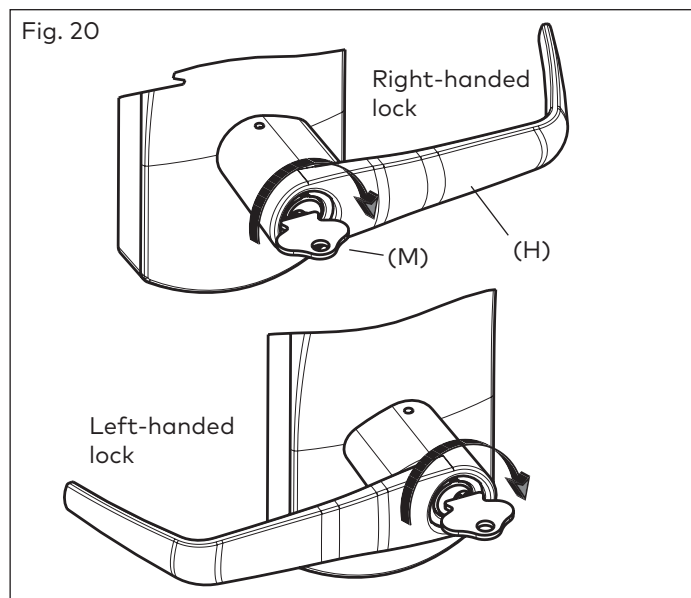
30. Re-insert the cylinder plug (K) (Fig. 19)



31. While holding the cylinder (J) and plug (K) in place, insert the key (M)

32. Turn the key (M) approximately 100° clockwise

33. Repeat the steps 1 to 9 to attach the lever handle (H) to the lock housing. (see Fig. 20)



Resetting the E7900 locks with MKO - Refer to command card kit or appropriate software user guide (Aurora/Enterprise).

Two additional adapters are provided for use with other key in lever style cylinders.

### IMPORTANT

The Key Override itself does not retract the latch or deadbolt. Do not use too much force when turning the key as this may damage the unit. To retract the latch, turn the key clockwise until it stops, release the key and turn the lever handle (H).

**Note:** The lever handle must stay in the horizontal position when turning the key (do not try to turn the key while turning the handle) or the override mechanism will not work.

### IMPORTANT

Always keep the door open while installing and verifying the functionality of the lock with the keycard or key override. Do not close the door until you are certain that you have installed the unit correctly.

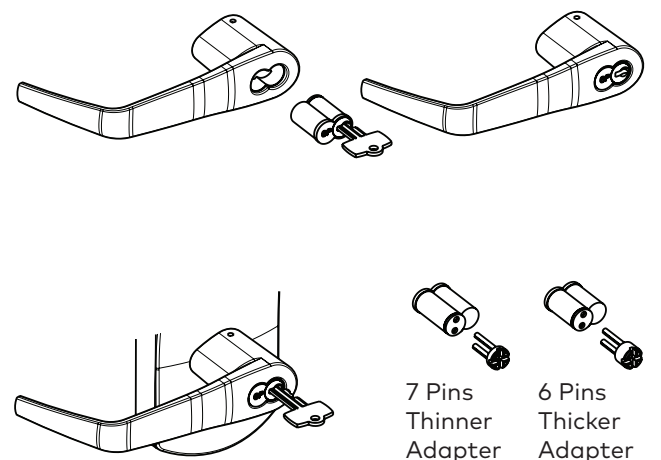
### Preparing the lever handle for Best Removable Core

**F-5** Insert 6-pin Best adapter (thicker) into 6-pin interchangeable core or insert 7-pin Best adapter (thinner) into 7-pin interchangeable core. Insert the adapter until it makes contact with the removable core.

**F-6** Using the control key, assemble the removable core with its adapter into the lever. Remove control key.

**F-7** Insert the change key into the removable core.

Follow the rest of instructions from step 3 to 5 of page 36





# 7 Installation of Mechanical Override Models

## 11. The Recodable Cylinder with 3 different keys (for E-760/770/79/RT Series with override only)

### IMPORTANT

Read the following instructions before using any of the 3 keys supplied

The E-760/770/79 Series/RT with a recodable cylinder can be operated with three different keys. The keys are numbered 1, 2 & 3, and each key is labeled and supplied in a separate plastic bag. It is very important to use them in order.

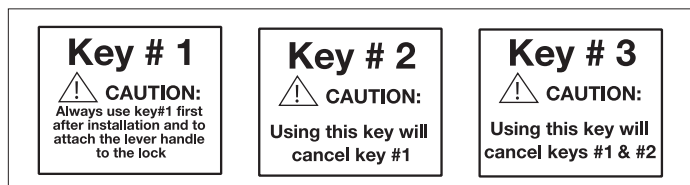
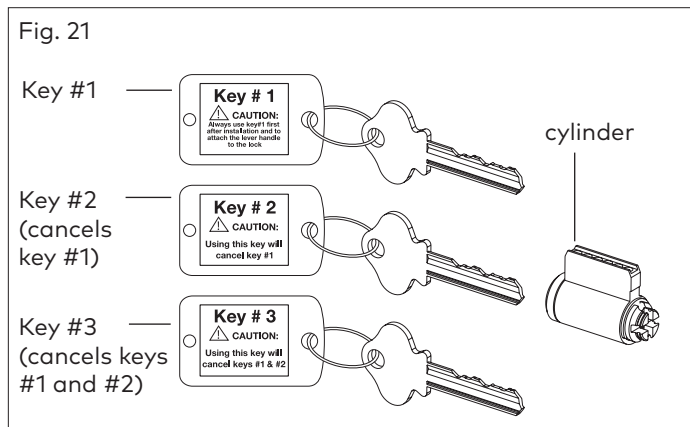
**Always read the label instructions on the label before using a key.**

### CAUTION

The use of key #2 automatically cancels the function of key #1, and the use of key #3 automatically cancels both keys #1 and #2.

If key #3 is used first, it will immediately make keys #1 and #2 unusable.

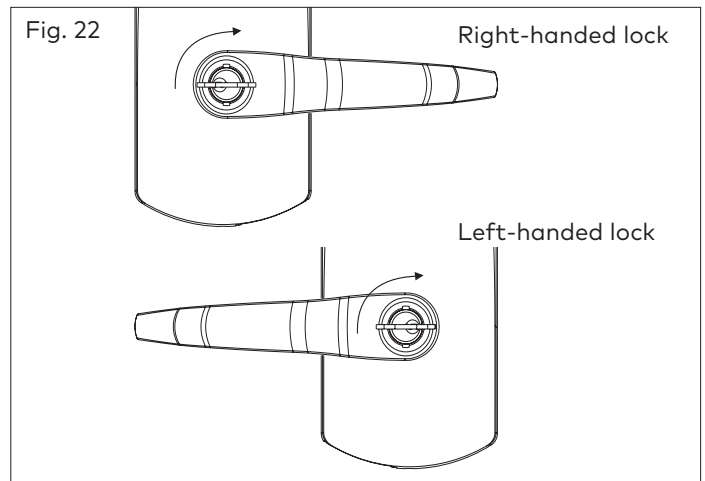
**Once a key is cancelled, it can't be reactivated unless the cylinder itself is re-pinned.**



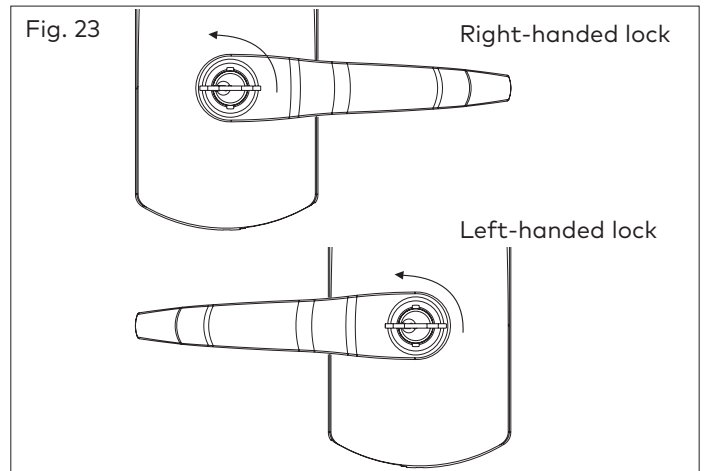
How to change lock combination from key #1 to key #2:

34. Insert key #2 into cylinder.

35. Turn the key clockwise until it stops (see Fig. 22) for both left-handed and right-handed locks.



36. Turn the key back counter-clockwise until it is in the horizontal position.



37. Remove the key.

Now the lock should work with key #2, and key #1 has been cancelled.

**TEST:** Try to use key #1 in the lock. It should no longer work.

How to change lock combination from key #2 to key #3

38. Insert key #3 into cylinder.

39. Turn the key clockwise until it stops.

40. Turn the key back counter-clockwise until it is in the horizontal position.

41. Remove the key.

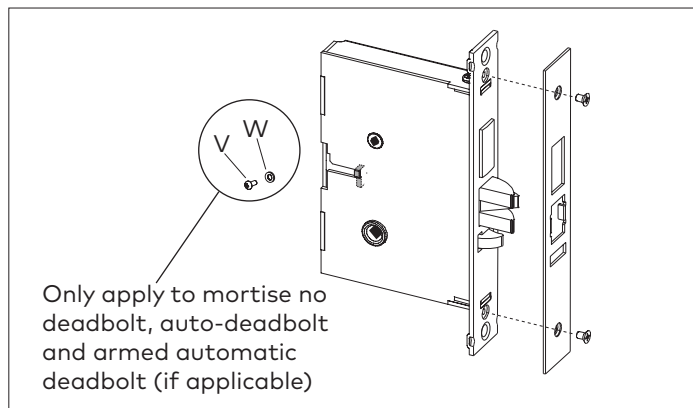
Now the lock should work with key #3, and key #2 has been cancelled.

**TEST:** Try to use key #2 in the lock. It should no longer work.

# APPENDIX A Mortise Models

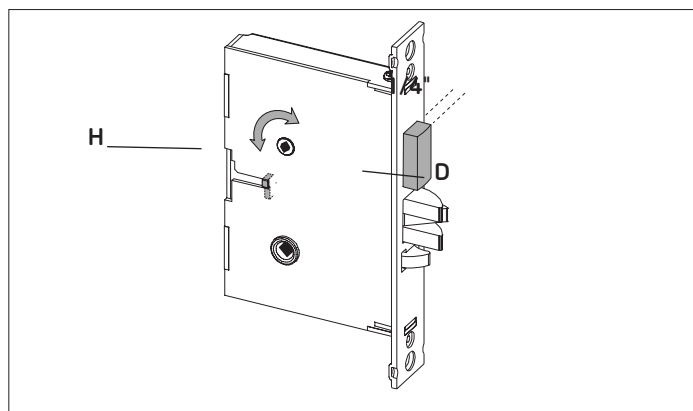
## A.1 Reversing the Mortise Handing ASM

1. Remove the mortise faceplate. Remove screw (V) and lock washer (W) if applicable and **place the mortise on a flat surface for the following steps.**



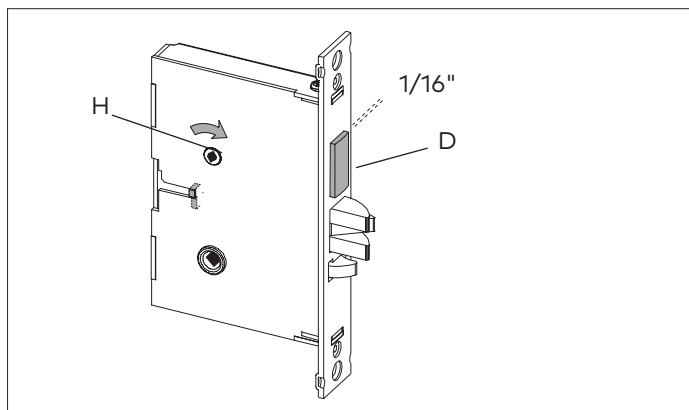
2. Partially extend the deadbolt:

**For normal ASM,** rotate hub (H) using a screwdriver, until the deadbolt (D) extends approximately 1/4".

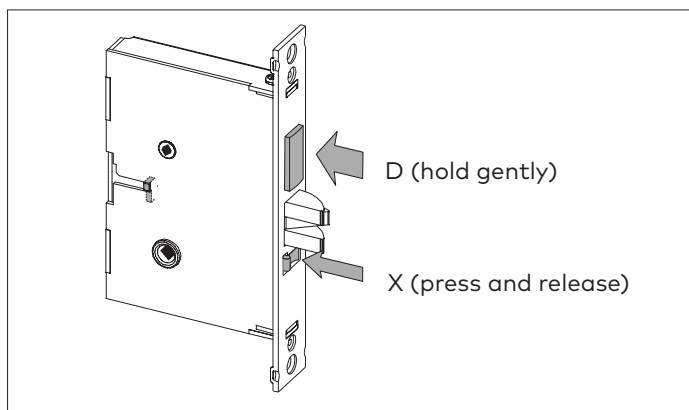


**Proceed to step 3.**

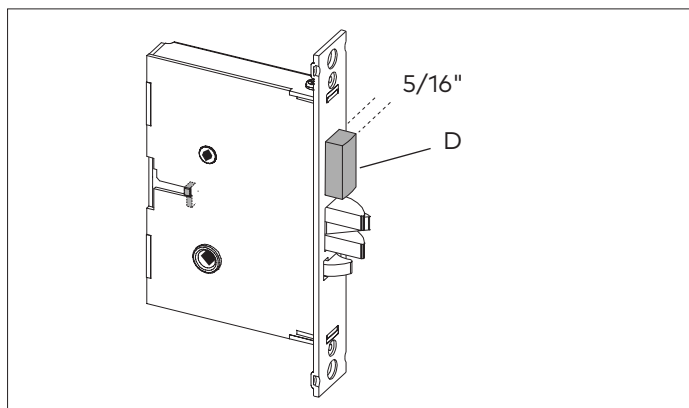
**For Autodeadbolt ASM,** rotate hub (H) until the deadbolt (D) is fully retracted. The deadbolt will extend approx. 1/16" from the mortise case.



Hold deadbolt (D) gently. Press and release the auxiliary latch (X). You should feel the deadbolt trigger and begin to extend under the force of the spring.



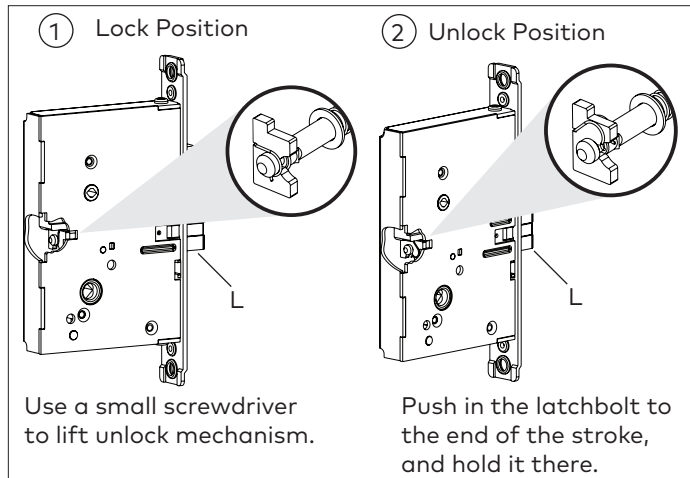
Release the deadbolt (D) gently. It should extend to 5/16" approx. and stop. If the deadbolt extends past this point, gently press it in until it locks at 5/16" throw, or start step 2 again.



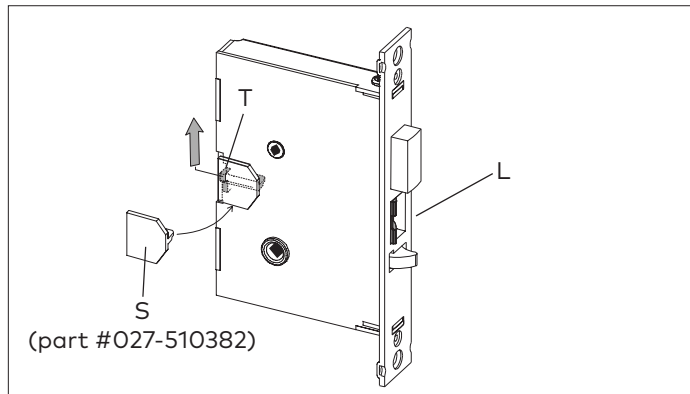
# APPENDIX A Mortise Models

## A.1.1 Reversing the Mortise Handing ASM

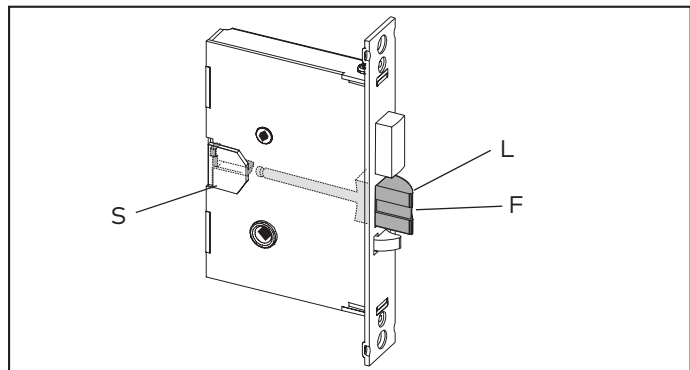
3. Push in the latch bolt (L) to the middle of its stroke, and hold it there. ( Continue Step 1 and 2)



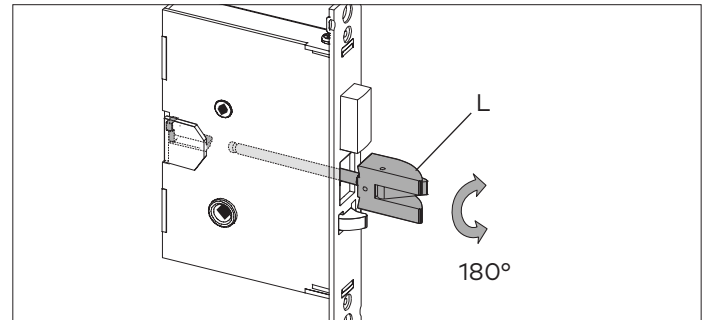
Hold the latch (L) inside the mortise, and insert the tailpiece retaining tool (S, part #027-510382 available separately) so that the tailpiece (T) will not drop inside the mortise case. Hold the tool and the latch with one hand, and slide up the tailpiece using a small screwdriver.



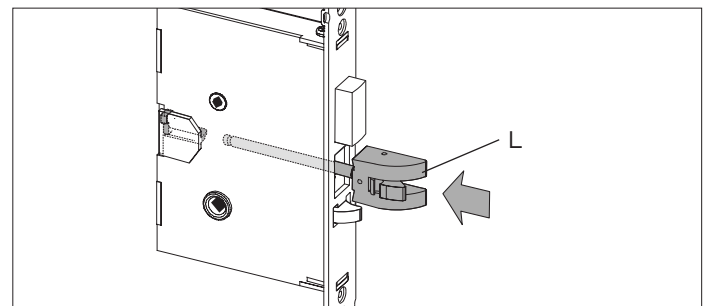
Continue to hold tool (S). Release the latch bolt (L) and keep the anti-friction latch (F) toward the flat side of the latch bolt so that the bolt extends fully.



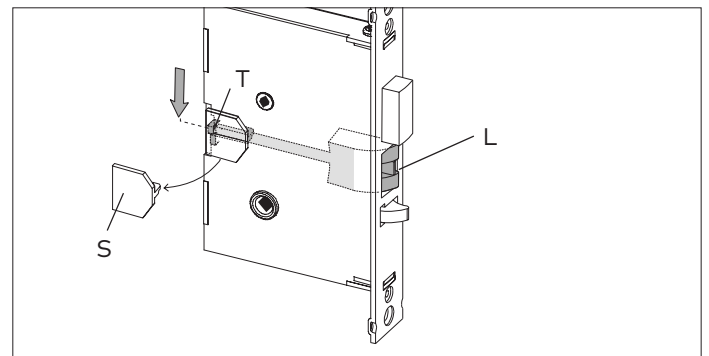
4. Pull out the latch bolt (L), until it just clears the front plate. (Note: If you remove the bolt completely, you must turn it 90° to re-insert it.)



Rotate the latch bolt (L) 180°. Re-insert it to the end of its stroke.



Holding tool (S) in place, re-engage tailpiece (T) with latch bolt (L) (slide tailpiece down). There may be some play required to align the parts. Remove the tool (S).



Release the latch to the middle of the stroke and hold it there. Use a small screwdriver to push the lock mechanism back on lock position (see step 1 and 2) .

### IMPORTANT

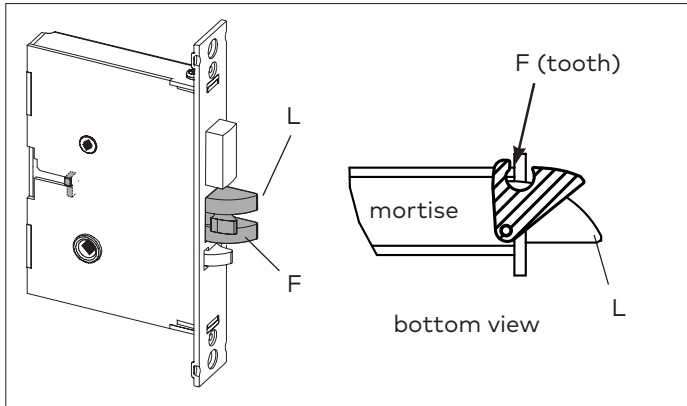
The lock mechanism has to be horizontal on lock position

# APPENDIX A Mortise Models

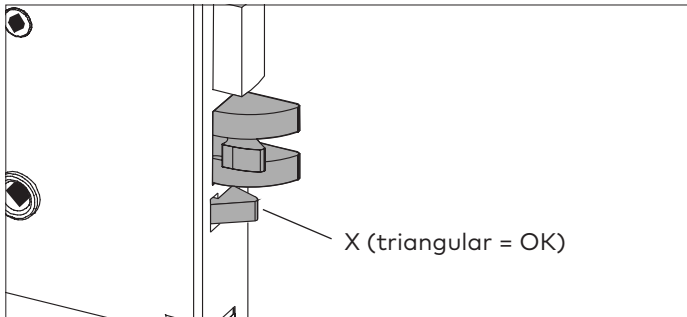
5. Release the latch bolt (L). Position the latch bolt so that the bottom tooth of the anti-friction latch (F) remains inside the mortise case as shown.

## IMPORTANT

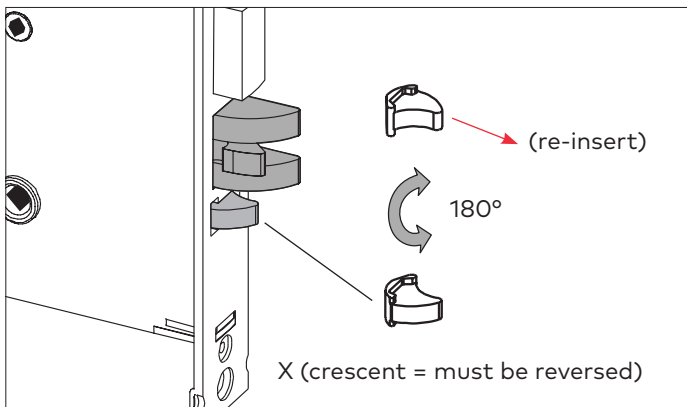
If the tooth of (F) is outside the mortise, you will not be able to re-assemble the faceplate on the mortise.



6. If the auxiliary latch (X) is shaped like a triangle, there is no need to change its handing.



If the auxiliary latch (X) is a crescent shape, remove it, turn it 180°, and replace it. The auxiliary latch slides easily in and out of the mortise.

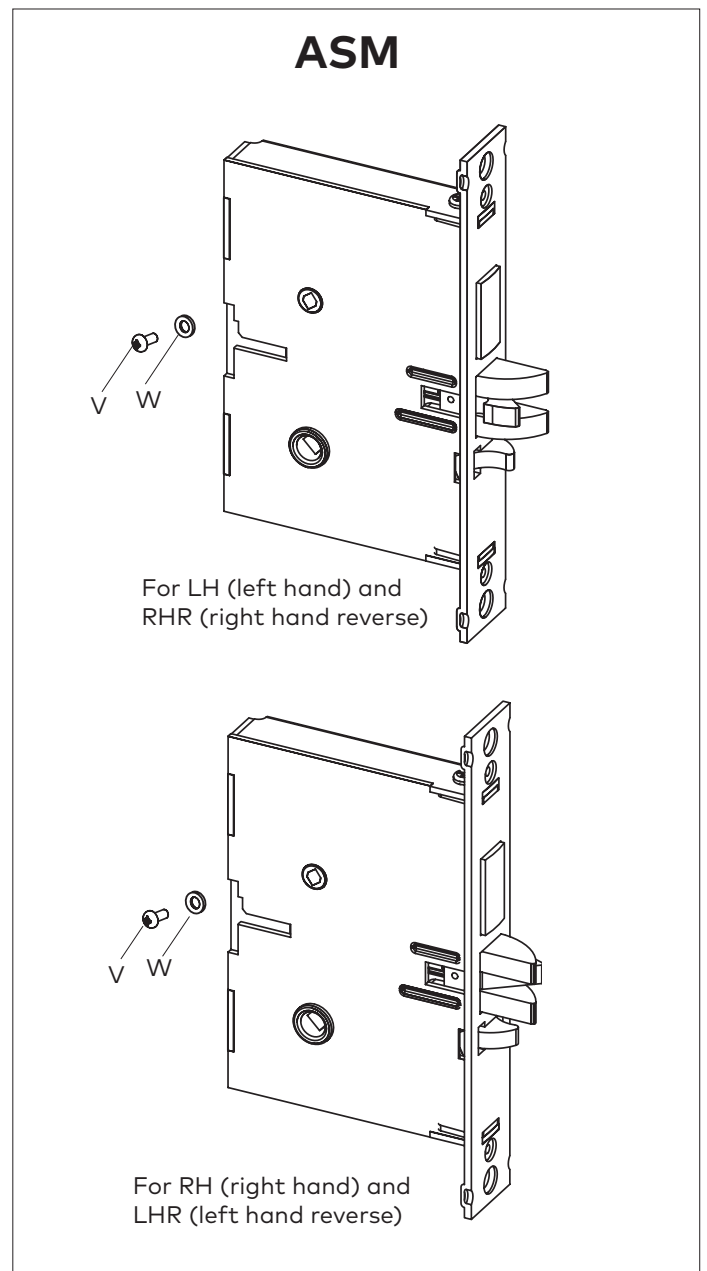


7. Assemble back screw (V) and lock washer (W) if applicable. The screw (V) must be tightened.

## IMPORTANT

Screw (V) must not touch the back wall of mortise cut-out on the door

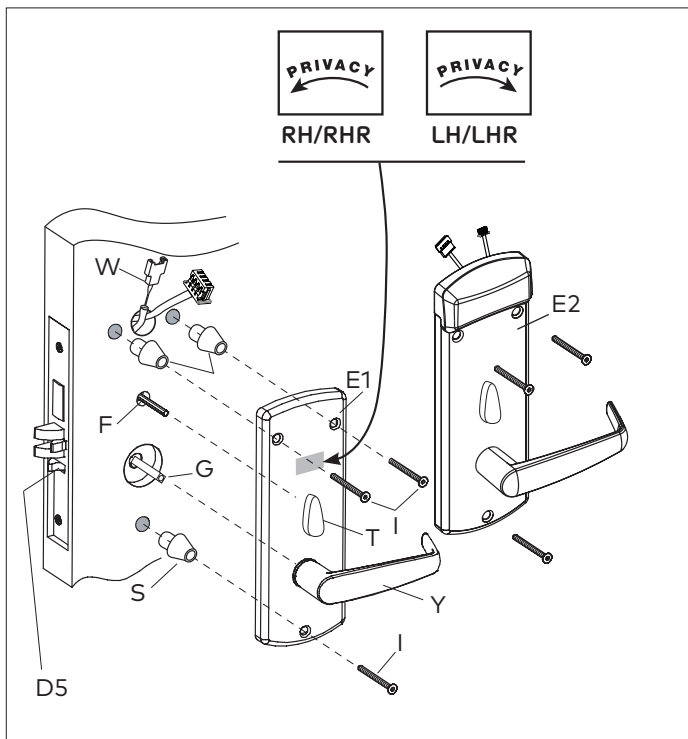
8. The mortise should look like the diagram below. (Check the orientation of the latch bolt and auxiliary latch.) Check the bevel of the mortise and change it if required as described in section 3.3, page 10.



# APPENDIX A Mortise Models

Place 3 spacers (S) on the door (for recent models only). For concerned lock models, connect all cables (W) to corresponding connectors of the inside trim assembly (E1) when applicable. Place the inside trim assembly on the door so that the upper and lower spindles (F) and (G) engage the thumbturn and the inside lever. Fasten to the outside housing using the three 1/8" hex head mounting screws (I).

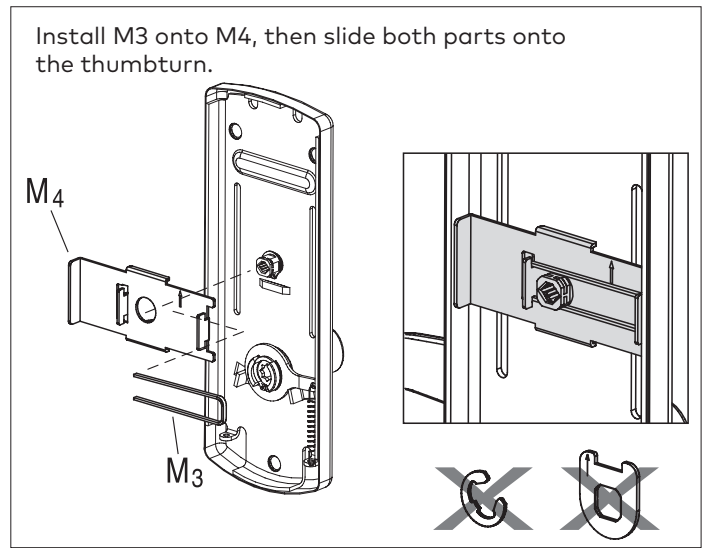
Apply the privacy thumbturn sticker as shown. If in doubt as to the direction of the arrow, press the auxiliary latch (D5) to extend the deadbolt, and verify in which direction to rotate the thumbturn to reach the horizontal (privacy) position.



## A.2 Additional steps for ASM Office

**Do the following BEFORE placing the inside trim assembly on the door (page 11, step 5):**

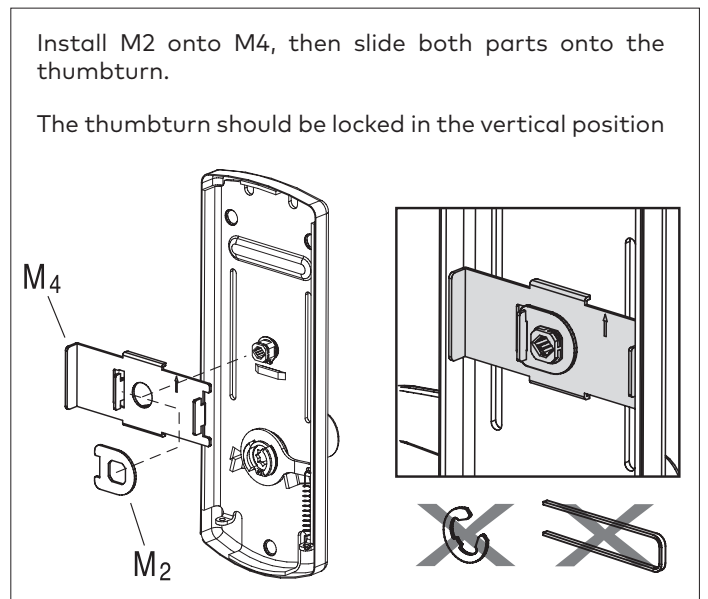
Install only parts (M3 and M4) as shown, on the inside trim assembly.



## A.3. Additional steps for ASM Store room

**Do the following BEFORE placing the inside trim assembly on the door (page 11, step 5):**

**Put the thumbturn in the vertical position** and install only parts (M2 and M4) as shown, on the inside trim assembly. The notch on the stopper cam (M2) must engage the tab on the plate (M4), so that the thumbturn is locked in the vertical position.



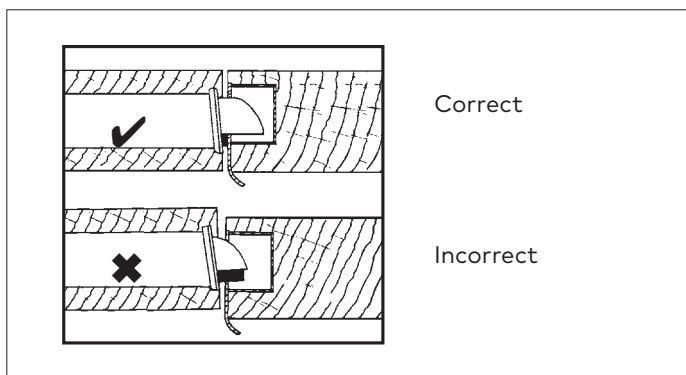
# APPENDIX B Installing Cylindrical Models 2-3/8" & 2-3/4" Backset

## B.1 Install the Strike

Follow the same steps as for a mortise model strike (see page 9, all steps in section 3.2). Note that the handle height is aligned with the center of the strike.

### IMPORTANT

For cylindrical latch models, ensure the dead-locking pin will stop against the strike when the door is closed (see figure). An incorrect installation that permits the pin to slip inside the strike may result in a total lockout and will void the warranty of the complete lock mechanism.



## B.2 Install the Latch

Follow the instructions on page 10, steps 1 to 3.

Note that for cylindrical models, the axis of rotation of the handle is level with the center of the strike. Mark this height on the edge of the door in step 1 on page 10.

### IMPORTANT

Respect applicable building codes regarding handle height.

4. Drill the holes for the cylindrical unit, thumbturn spindle, and lock mounting screws. Refer to template for dimensions and depths.

### IMPORTANT

Drill from both sides of the door to prevent unsightly damage.

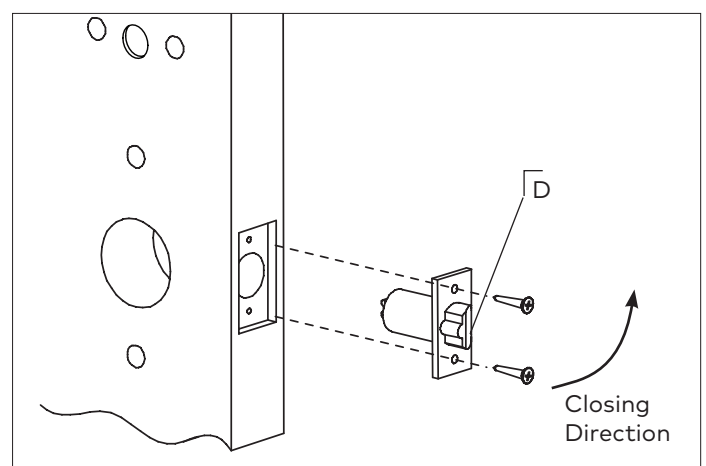
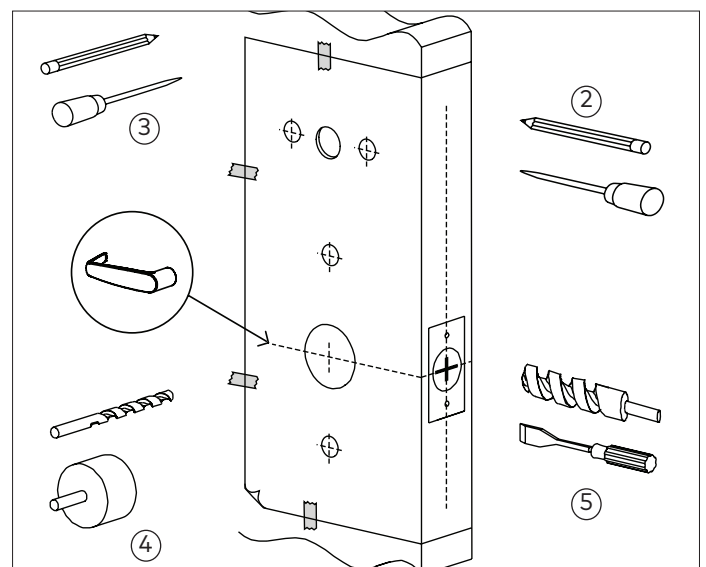
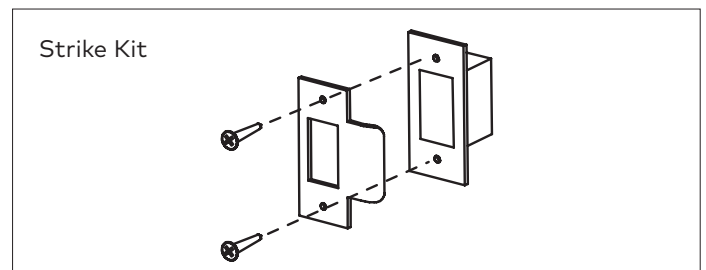
5. Drill the hole for the latch, and chisel out clearance for the latch plate.

6. Install the latch using 1" Phillips mounting screws. Position the deadlocking pin (D) opposite to the closing direction as shown.

7. Install Strike and strike box.

### IMPORTANT

Use only the strike and strike box supplied. The use of non-approved parts will result in a functionality problem and may void the warranty.



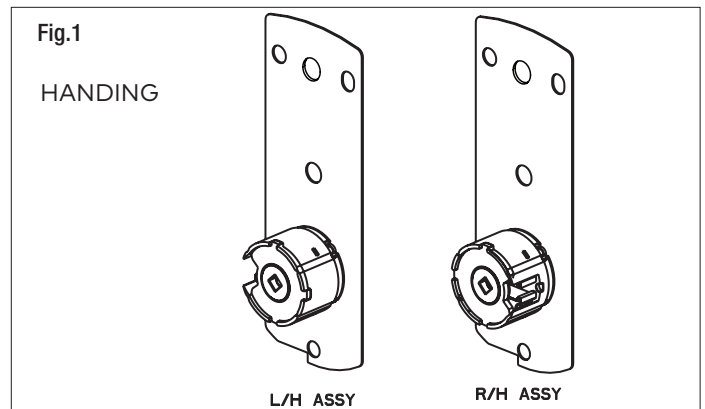
# APPENDIX B Installing Cylindrical Models 2-3/8" & 2-3/4" Backset

## B.3 Install the Cylindrical Unit

Depending on the kind of Spacers shipped with the lock assembled in the factory for 1 3/4" door thickness, choose door thickness Table 1 or door thickness Table 2 to prepare the attachment plate and cylindrical drive unit for the door thickness other than 1 3/4"

### IMPORTANT

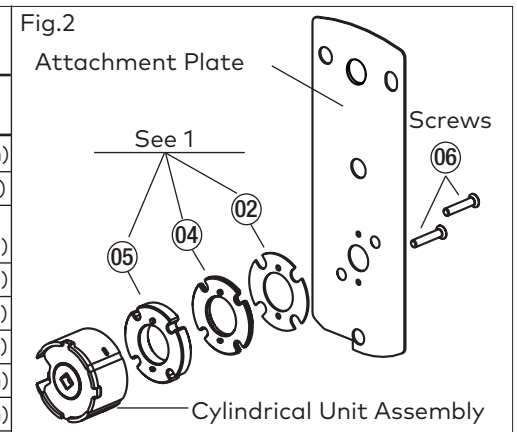
It is very important to assemble the spacers in position shown.



### 1. Lock with 3 DIFFERENT SPACERS (see fig.2)

The cylindrical Unit and Attachment Plate assembly is shipped assembled in the factory for 1 3/4" door thickness (44mm) with 2 spacers "04", 1 spacer "02" and 2 flat head screws "06" 5/8" LG (see fig.4).

Door Thickness	Spacer 02	Spacer 04	Spacer 05	Screw 06
1-3/8" (35mm) up to 1-9/16" (40mm)	-	1	-	3/8 (10mm)
Over 1-9/16" (40mm) to less than 1-11/16" (43mm)	-	2	-	1/2 (13mm)
1-3/4" (44mm) 1-11/16" (43mm) to less than 1-7/8" (48mm)	1	2	-	5/8 (16mm)
1-7/8" (48mm) to 1-15/16" (49mm)	1	-	1	5/8 (16mm)
Over 1-15/16" (49mm) to less than 2-1/8" (54mm)	2	-	1	3/4 (19mm)
2-1/8" (54mm) to 2-3/16" (56mm)	-	1	1	3/4 (19mm)
Over 2-3/16" (56mm) to 2-3/8" (60mm)	2	1	1	7/8 (22mm)
Over 2-3/8" (60mm) to 2-1/2" (64mm)	-	-	2	7/8 (22mm)



### 2. Lock with 2 DIFFERENT SPACERS (see fig.3)

The cylindrical Unit and Attachment Plate assembly is shipped assembled in the factory for 1 3/4" door thickness (44mm) with 2 spacers "07", 1 spacer "08" and 2 flat head screws "06" 5/8" LG (see fig.4).

Door Thickness	Spacer 07	Spacer 08	Screw 06
1-3/8" (35mm) to 1-9/16" (40mm)	2	-	3/8 (10mm)
1-5/8" (41mm) to 1-11/16" (43mm)	1	1	1/2 (13mm)
1-3/4" (44mm) to 1-13/16" (46mm)	2	1	5/8 (16mm)
1-7/8" (48mm) to 1-15/16" (49mm)	-	2	5/8 (16mm)
2" (51mm) to 2-1/16" (52.5mm)	1	2	3/4 (19mm)
2-1/8" (54mm) to 2-3/16" (56mm)	2	2	3/4 (19mm)
2-1/4" (57mm) to 2-5/16" (59mm)	-	3	7/8 (22mm)
2-3/8" (60mm) to 2-1/2" (64mm)	1	3	7/8 (22mm)

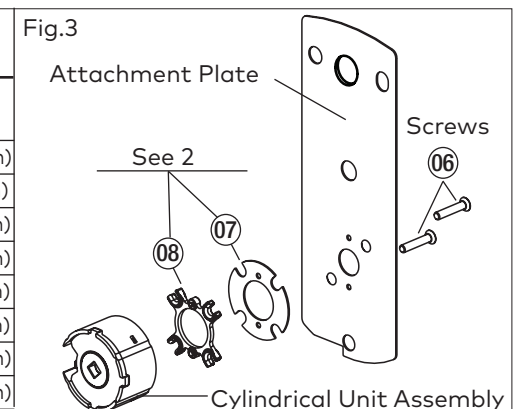


Fig. 4 Screw Length (Full Scale)

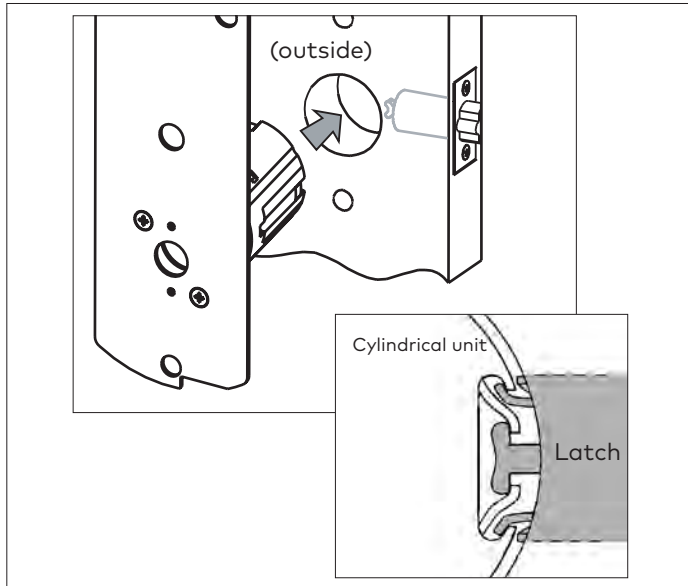




# APPENDIX B Installing Cylindrical Models 2-3/8" & 2-3/4" Backset

## B.3 Install the Cylindrical Unit (con't)

3. Insert the cylindrical unit from the outside of the door toward the inside, so that it engages the latch as shown. This operation is to be done at B.5 step 4.

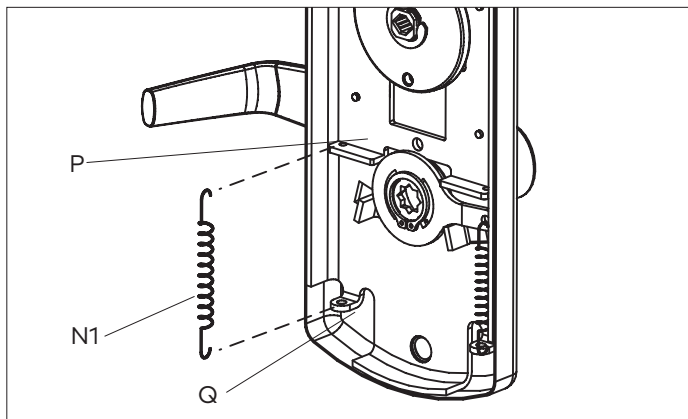


## B.4 Inside Trim Assembly for Cylindrical

The inside trim assembly for cylindrical includes parts assembled at the factory to control the motion of the thumbturn, and an additional spring. The locking screw (V) is added for storeroom applications (no privacy)

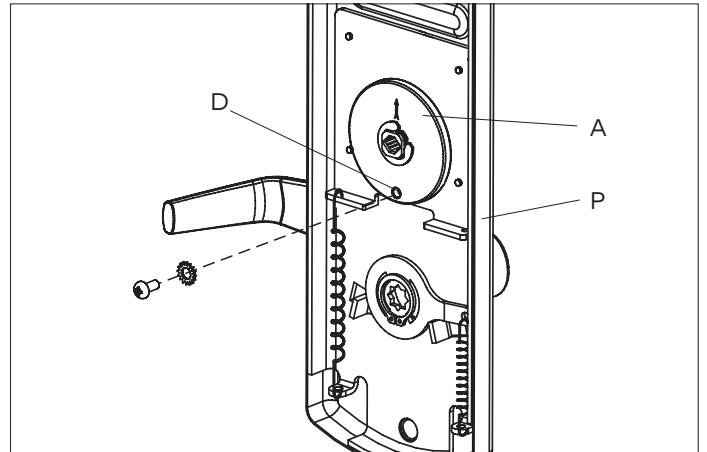
**Do the following BEFORE** placing the inside trim assembly on the door (page 49, step 5):

Install the additional tension spring (N) between the plate (P) and the post (Q), on the side opposite the lever handle spring installed in the last step.



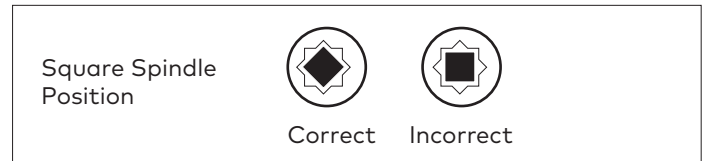
**Put the thumbturn in the vertical position** so that the arrow (A) on the disc points UP.

If installing as a Storeroom function lock, lift the plate (P) until the hole in the plate is aligned with the hole in the disc (D), and fasten the disc and the plate securely together with the screw (V) and lock nut (W) provided. The screw head **MUST** touch the surface of the disc for correct assembly.



## B.5 Install Outside Housing and Trim Assembly for Cylindrical

1. Insert the slotted end of the square spindle (G) into the outside lever hub until it locks, at an angle of 45°. (The spindle can be removed by pulling on it, if oriented incorrectly.)

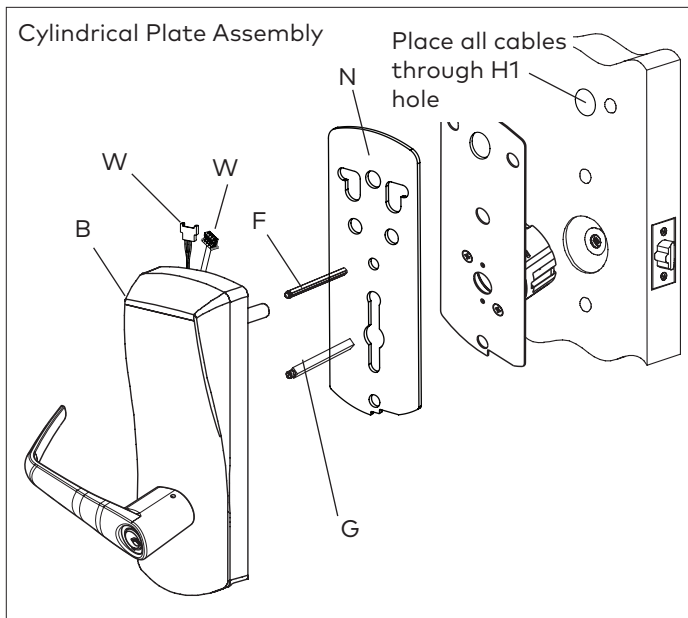


2. Insert the thumbturn spindle (F) in the upper hub of the outside housing. (It will clip in place.)

3. Assemble gasket onto the outside housing. Assemble cylindrical plate assembly onto the outside housing.

4. Place the outside housing on the door so that spindle (F) engages thumbturn hole and spindle (G) engage hub of cylindrical unit. The cylindrical unit will engage the latch as shown in step 2 of B.3 (page 47). For 660i/790/RT/79M insert cables W1/W3/W5 when applicable in gasket & cylindrical plate assembly and in hole (H1) on the door.

# APPENDIX B Installing Cylindrical Models 2-3/8" & 2-3/4" Backset

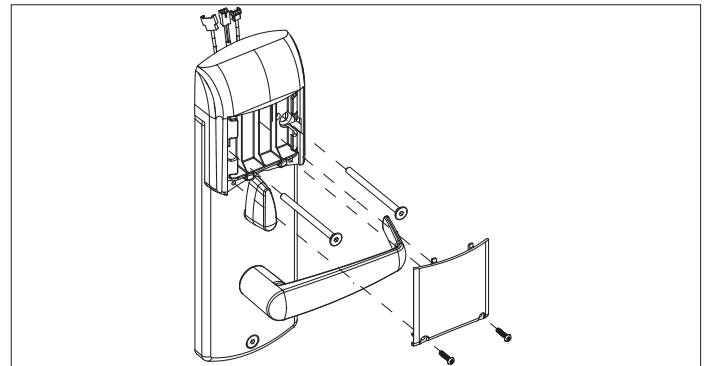


6. Insert the battery holder into the outside housing and secure it using the 6-32 x 5/16" (7.9mm) Torx drive screw (C2) for E-760/770/79/RT Series or 6-32 spanner drive screws for the 660 Series.

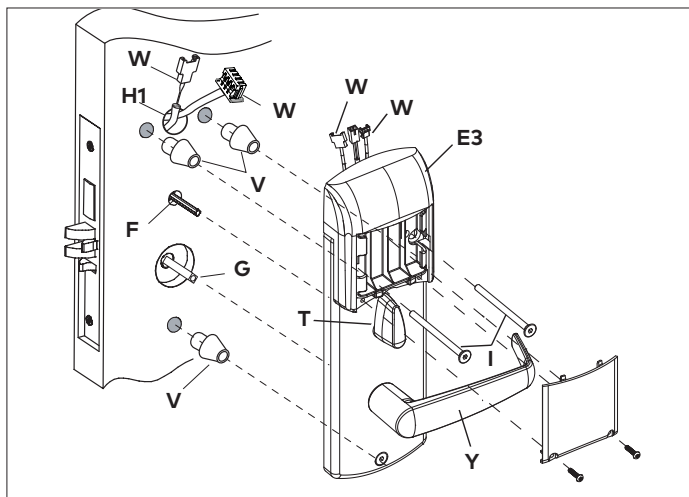
## IMPORTANT

The battery holder shall be installed after connecting all wires to their corresponding connectors, otherwise there is a risk for battery drain.

For the E7900 lock series, follow indications stated in step 5 using the illustration below.

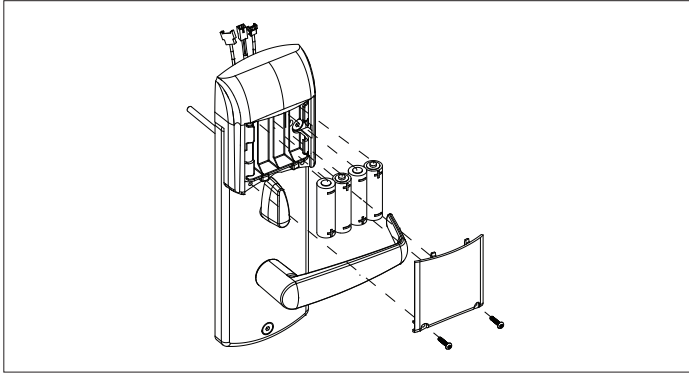


5. Put the thumbturn (T) in a vertical position. Assemble 3 spacers (S) on the door (for recent models only). Place the inside trim assembly on the door so that the upper and lower spindles (F) and (G) engage the thumbturn and the inside lever. Fasten to the outside housing using the three 1/8" hex drive mounting screws (I). Install the screws without tightening. Verify the inside lever and thumbturn operates smoothly. If not move the inside and outside housings slightly. Then tighten the screws. Connect cables to corresponding connectors where applicable and put excess cables in hole (H) in the door when installing the inside trim assembly (E) on the door.



# APPENDIX B Installing Cylindrical Models 2-3/8" & 2-3/4" Backset

For E7900, insert the 4 AA batteries supplied with the lock. afterwards insert battery cover and secure into place with supplied screws.



7. Testing the cylindrical lock: Follow all steps of page 13 and 14 but extension and retraction will be for latch only.

## IMPORTANT

If the lock makes a continuous buzzing noise or the red LED lights continuously, reset the electronics by removing the battery holder for ten seconds, then reinsert it.

**Note for Contactless customers:**

Statement according to FCC part 15.105

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.
- Consult the dealer or an experienced radio/TV technician for help.

Statement according to FCC part 15.21

Modifications not expressly approved by Kaba Ilco could void the user's authority to operate the equipment.

Statement according to FCC part 15.19

This device complies with part 15 of the FCC rules and Industry Canada ICES-003. 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.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes : (1) l'appareil ne doit pas produire de brouillage, et (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

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E7900 Support with Enterprise software, 800.849.8324

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