MX-SERIES

With EZ Connect

INSTALLATION MANUAL

Proxess

To learn more: visit www.proxess.com
or call (303) 317-6656

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INTRODUCTION

The *Proxess MX-Series Service Manual* contains important information to assist you in maintaining your Proxess Mortise Lockset.

CERTIFICATIONS AND STANDARDS

- ANSI/BHMA A156.25 (Indoor/Outdoor)
- ANSI/BHMA A156.2 Grade 1
- ULC S319 PDR
- ULC Canada
- RoHS

- UL10C Fire-Rated
- UL10B Neutral Pressure Rated
- FCC Part 15
- ADA Compliant
- Industry Canada (IC)

TECHNICAL SUPPORT

The first source for technical answers is this MX Series Service Manual. All documentation and training materials are also available on our website: www.proxess.com. If you are not able to find an answer in this manual, contact your local Proxess Representative. If you do not know your local Proxess Representative, contact the Customer Service Department at Proxess (303) 317-6656.

INSTALLATION INSTRUCTIONS

The following pages contain the Installation Manual for the MX- Series Mortise Lock

A. PARTS CHECKLIST

Each Proxess MX-Series lockset includes:
- **Door Preparation Template**
- **Mortise Installation Instructions**
- **Mortise Lever Lockset**
  - **Exterior lock assembly**
  - **Interior lock assembly**
  - **Mortise Chassis**
  - **Cylinder**
- **4 AA Batteries**
- **Hardware box includes:**
  - **Strike Plate pack Includes:**
    - **Front Panel Screw x2 pcs**
    - **Strike Plate Screw x2 pcs**
    - **ASA Strike Plate (Deadbolt or Latch Only)**
  - **Spindle Pack Includes:**
    - **Spindle x2 pcs**
    - **Thumb Turn Spindle**
    - **Thru bolt x2 pcs**
    - **Micro Switch CAM with Magnet**
    - **Spindle Spring x2 pcs**
    - **Round Head Screw x2 pcs**
  - **Spring Cage Pack Includes:**
    - **Spring Cage x2 pcs**
    - **Flat Head Screw x4 pcs**
  - **Screw Pack includes:**
    - **Interior Flat Top Screw x4 pcs**
    - **Panel Set Screw**
    - **Hex Wrench**

B. Door Preparation

1. Measure the desired height from the floor to the door handle.
2. Using the Mortise Lock Installation Template, drill out the proper holes in the door.
   a) Hole sizes are listed on the template, drill using an equivalent or larger drill bit or hole saw. Larger holes may become visible when the lock is installed, so it is recommended to drill holes as close to template size as possible.
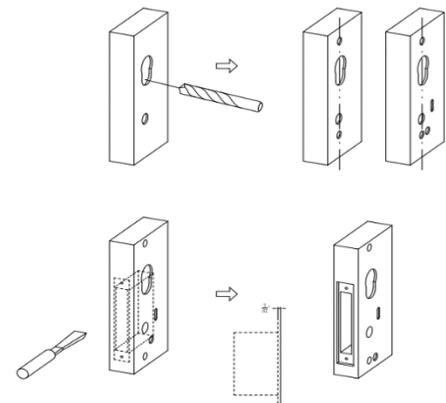
Front Panel Size: L 8-1/32" x W 1-5/16" x D 7/32"

C. Left-Hand and Right-Hand Reverse Set Up (See D for RH and LHR Set Up)

Note: The lock is right handed by default. To rehand the lock, you will need to change the lock bolt orientation.

Door Handing Chart

Indicates Key Side

Inside

Left Hand

Right Hand Reverse

Inside
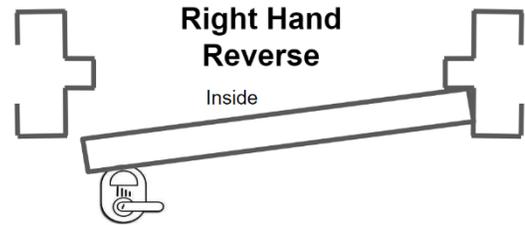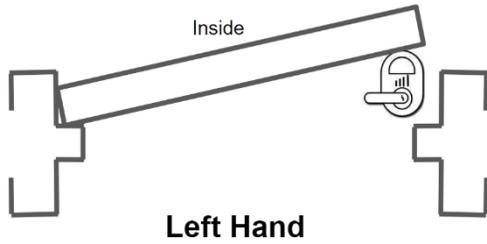
C.1 Latchbolt Orientation Setup

1. Remove the front panel screw and the front panel.

2. Unscrew the latch set screw.

3. Pull out the latch, turn it 180°, and replace it in the chassis.

4. Reinsert and tighten the set screw.

Front Panel Screw

Latch Set Screw

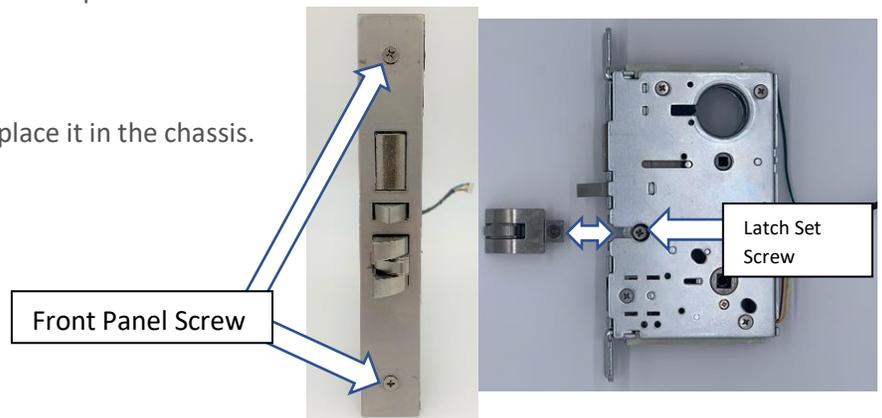| C.2 Remove Free Wheeling Lever Set Screw	C.3 Proper Spring Cage Orientation Set Up (For Left Hand or Right-Hand Reverse)

Note: Arrow must point down.
 	
Free Wheeling Lever Set Screw
 	
Note: Only remove the screw from the external / "insecure" / reader side of the Mortise assembly.
	For Exterior Escutcheon Spring Cage:
	  1. Place the spring cage on the mount posts of the trim. Arrow should point clockwise (or in the direction you want the handle to engage the latch).
	  2. Then, screw in two of the included flat-top screws.
	For Interior Escutcheon Spring Cage:
	  1. Place the spring cage on the mount posts of the trim. Arrow should point counterclockwise (or in the direction you want the handle to engage the latch).
	  2. Then, screw in the last two of the included flat-top screws.
	
	Spring Cages

D. Right Hand and Left-Hand Reverse Setup

Door Handing Chart

⌔ Indicates Key Side

Inside

Right Hand

Left Hand Reverse

Inside

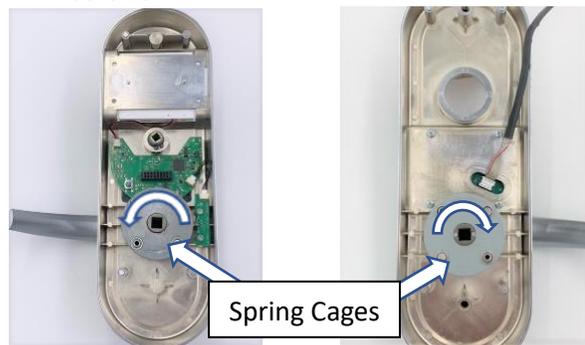| D.1 Right Hand and Left Hand Reverse	D.2 Remove Free Wheeling Lever Set Screw
Do not remove the latchbolt. 1. Remove the front panel set screw and the front panel . Screws	**Note:** Arrow must point down. Free Wheeling Lever Set Screw **Note:** Only remove the screw from the external / "insecure" / reader side of the Mortise assembly.

D.3 Proper Spring Cage Orientation Set Up (For Right Hand or Left Hand Reverse)

For Exterior Escutcheon Spring Cage:

3. Place the spring cage on the mount posts of the trim. Arrow should point clockwise (or in the direction you want the handle to engage the latch).
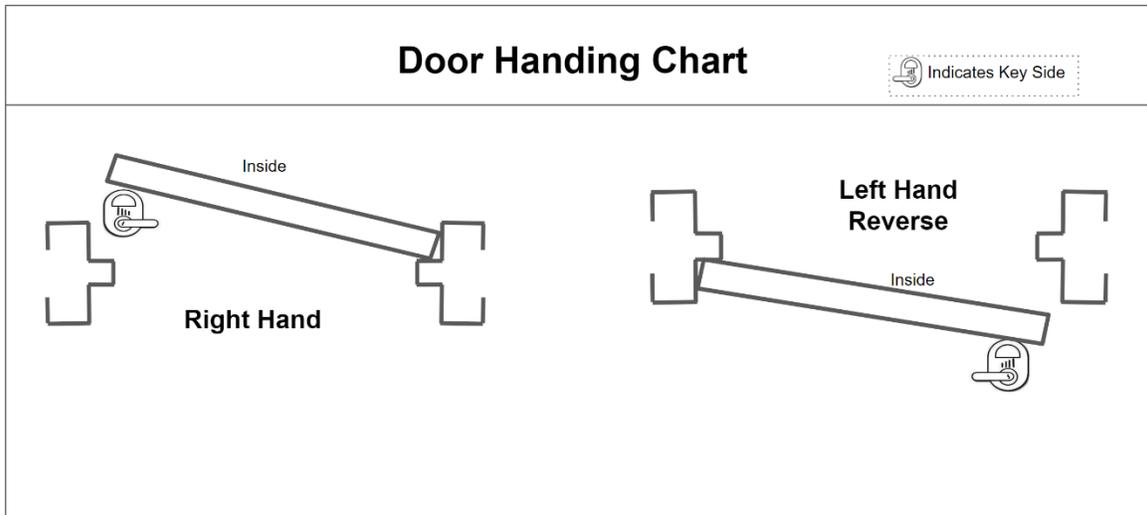4. Then, screw in two of the included flat-top screws.

For Interior Escutcheon Spring Cage:

3. Place the spring cage on the mount posts of the trim. Arrow should point counterclockwise (or in the direction you want the handle to engage the latch).
4. Then, screw in the last two of the included flat-top screws.
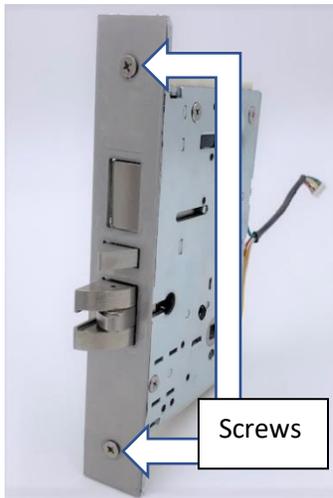

Spring Cages
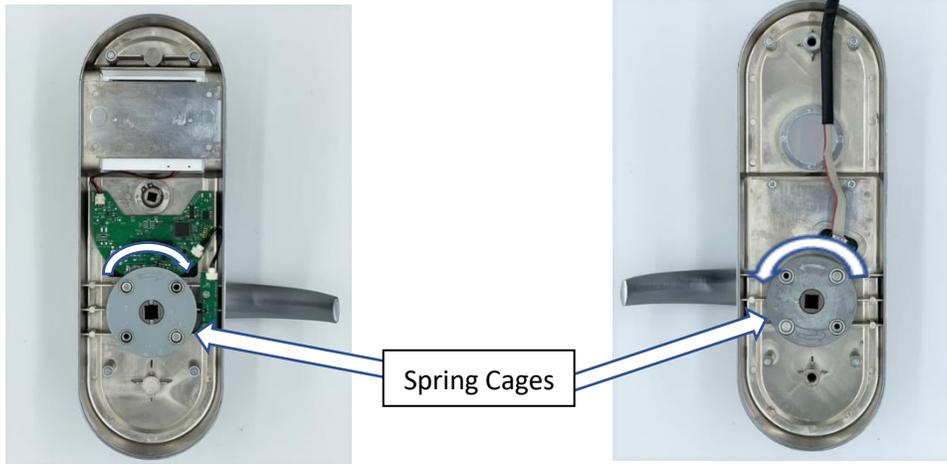
E. Mortise Chassis Installation

1. Insert the cables through the door chassis hole.
2. Slide the chassis cable through the middle-offset drilled door hole as shown. Pliers may be helpful to fish it through.
3. Then, slide the chassis into the door and start screws as shown (do not tighten screws at this point). It may be easiest with a second person to hold the chassis.

Slide the cable into the slot on the same side the handle will be facing. See photos above and below for exact orientation.

Rotate the plate into place, making sure the cable is facing the same as one of the photos above and below.

Lay the cable flat, pointed upward as shown above.

F.2 Attaching Hex Bolts and Gasket

Ensure the plate is fully seated into place.

Insert Hex Bolts onto the Exterior Escutcheon.

Then install Exterior Gasket onto the Exterior Escutcheon.
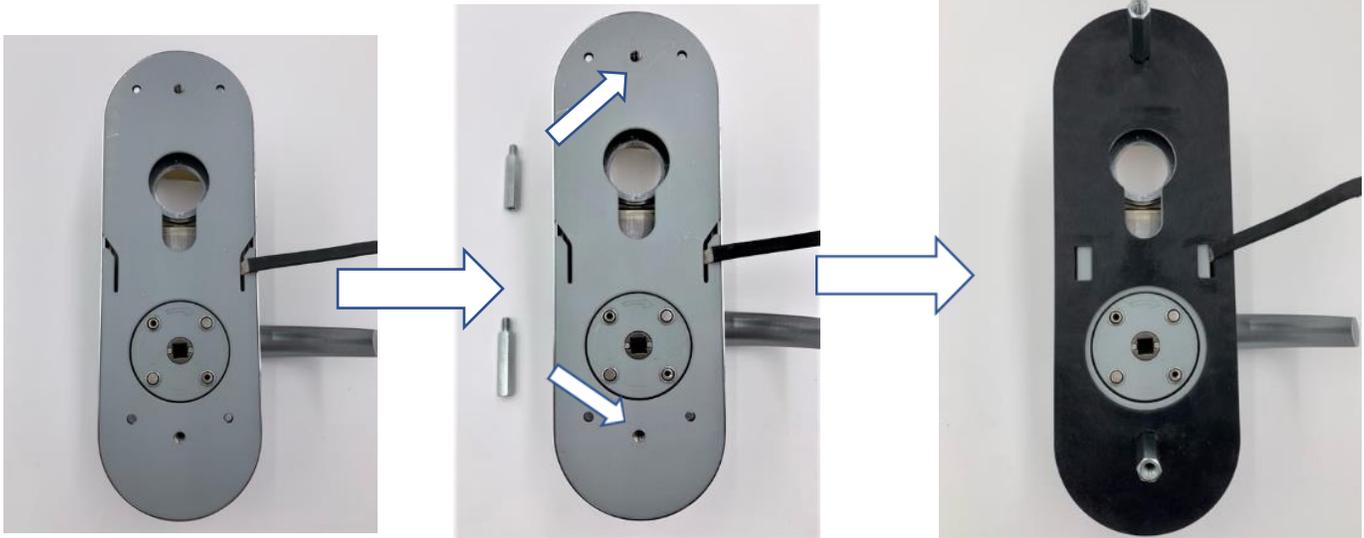
F.3 Insert Spindle

1. Insert a spindle and spindle spring into the spring cage.
2. Ensure the lever rotates smoothly and drives the spindle properly.

Tip: Having a hard time installing the spindle? Make sure the handle is 90° perpendicular to the trim in the desired orientation. Shifting the handle slightly may help particularly troublesome spindles.
NOTE: Pay close attention to the spring. The small spring is not attached to anything and can be easily misplaced.

F.4 Insert Ribbon Cable

1. Insert the ribbon cable into the 5/8" hole on the side.
2. Pull the ribbon cable through the other side of the door. Pliers may be helpful to fish it thru. Make sure the cable is not bent or pinched.
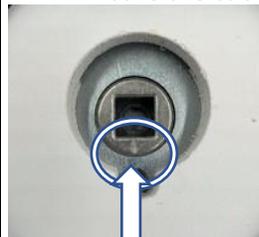
Ensure this arrow is pointing down when installing exterior housing

F.5 Attach the Exterior Escutcheon to the door

1. Line up the spindle with the matching hole in the chassis and the thru bolts with their matching holes in the door, then carefully but firmly push the escutcheon and spindle into place.
   a. If the assembly does not fit into place and sit flush against the door, verify nothing is blocking the thru bolts and the arrow is pointing down for the spindle hole in the chassis (see above)

F.6 Install Interior Backplate

1. Push the ribbon cable and chassis cable thru the Interior Gasket and Interior Backplate.
2. Fasten the two round head screws, but do not tighten them.

Screw

Screw
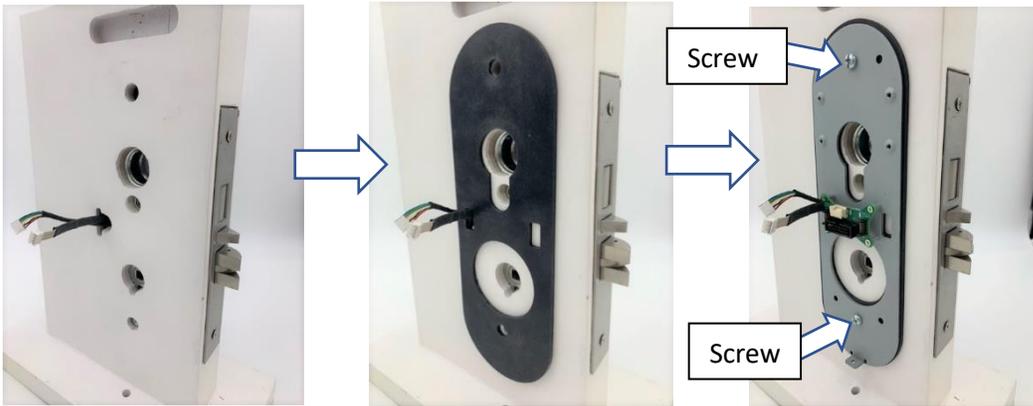
F.7 Connect Cables

1. Attach the ribbon cable to the plug on the nearest side of the EZConnect board
2. Attach the chassis cable to the plug on top of the EZConnect board
3. Tuck away loose cable to avoid it being pinched by the interior housing
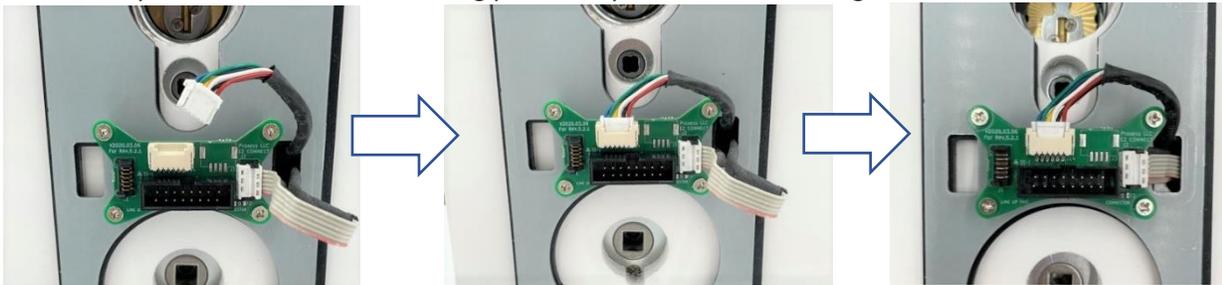
F.8 Install Cylinder	F.9 Tighten Cylinder and Screws
1. Loosen the cylinder set screw in the chassis. 2. Insert the cylinder into the exterior escutcheon and spin it to tighten it down. Ensure it sits flush with the front plate. Insert Cylinder → Loosen Cylinder Set Screw ←	1. Tighten the cylinder set screw. 2. Tighten the interior backplate screws. 3. Tighten the chassis screws Chassis Screw ← Cylinder → Cylinder Set Screw ← Chassis Screw ←

Step F Completed

Backplate Screw

Backplate Screw
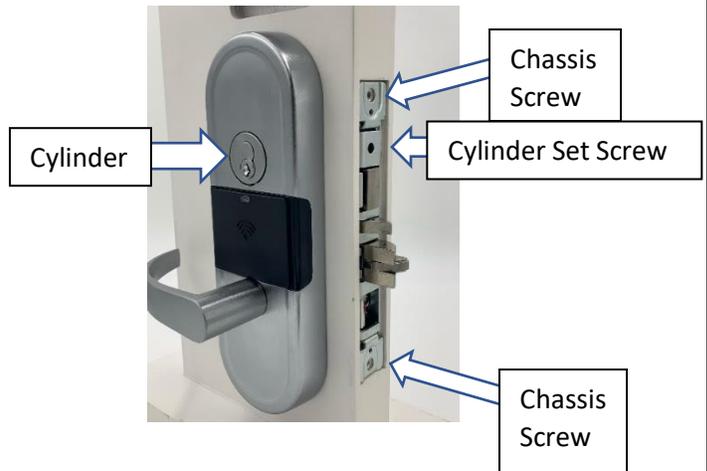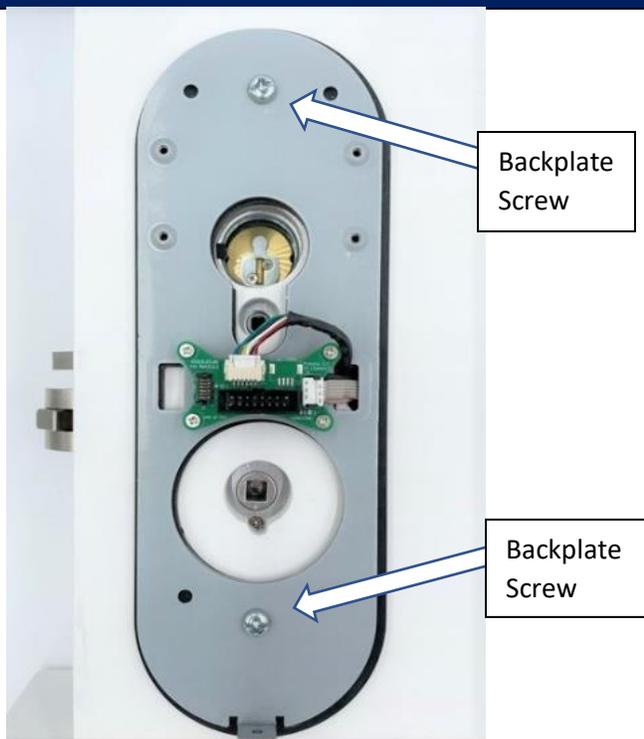
G. Interior Assembly Preparation

G.1 Remove Battery Cover

Use the 1.5mm Hex Wrench to loosen the long and short set screws.	Remove the battery cover.

Short Set Screw

Long Set Screw

G.2 Inserting Hall Effect CAM

1. Insert the Hall Effect CAM on the spring cage as shown.
2. Then, move it to the right and align it with the spindle slot as shown.

G.3 Inserting Spindles	G.4 Engaging the Hall Effect Switch
Insert the remaining spindle and spring into the spring cage as shown **Note:** The spring is not attached to anything and can be easily misplaced. Use caution when installing the spring.	Turn the lever to make sure the CAM arm is not touching Hall Effect Switch. Bend the CAM up slightly if it is.
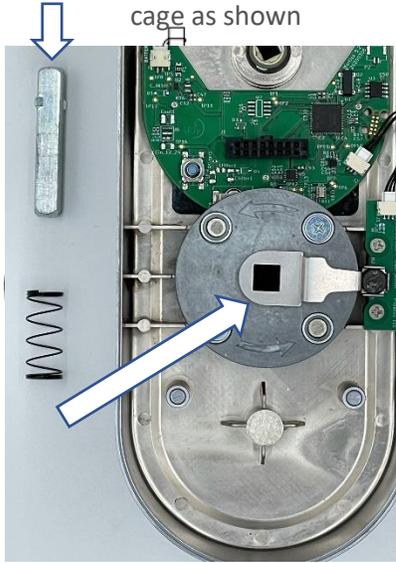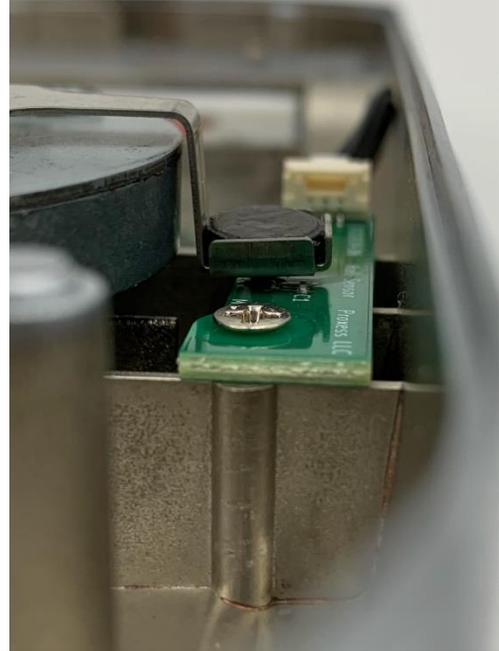
Step G Completed

H. Interior Escutcheon Installation	
H.1 Installing Thumb Turn Spindle	**H.2 Install Interior Escutcheon**
Insert Thumb Turn Spindle (For deadbolt model only)	Align the spindles and EZ connect with the chassis and place it onto the interior backplate. Ensure that the thumbturn is horizontal when the deadbolt is in, and vertical when the deadbolt is out/thrown. (For deadbolt model only)
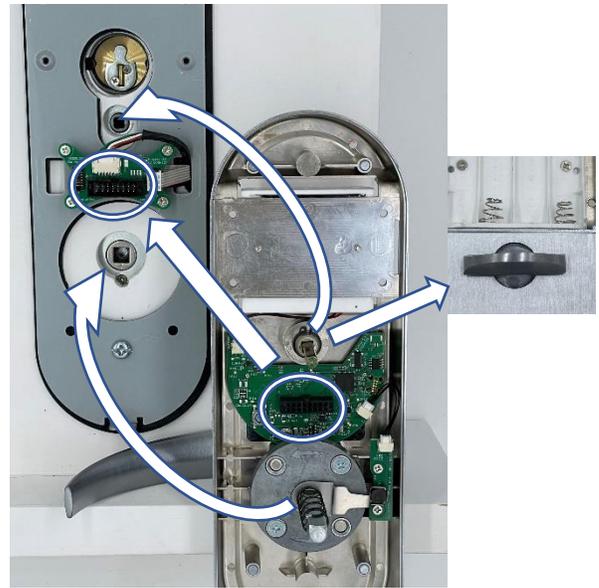
H.3 Validate

Turn the lever to ensure proper latch engagement. The latchbolt should retract.

H.5 Fasten Interior Trim

Insert the 4 battery compartment screws and bottom set screws to finish installing the interior trim

I.	**Operation Test**	
I.1 Install AA batteries (x4)		**I.2 Power On Self-Test**

The interior light will illuminate in colors, and you will hear a beep, indication that the power is on. Turn the lever and make sure the lever is free to rotate.

I.3 Testing the Lock

1. Take a construction-mode credential, place it in front of the reader panel and wait. The light will illuminate blue, then will flash green and you will hear a beep.
2. Turn the handle to actuate the latch and the door can be opened. After a few seconds, the door will automatically lock again.

I.6 Thumb turn lever function test (Deadbolt only).	I.7 Install Chassis Plate
Turn thumb turn lever, deadbolt latch will extend; deadbolt latch will work with Cylinder Emergency Key. (For this model only)	Fasten the chassis plate on with the chassis plate screws after passing all function tests.

I.8 Install Battery Cover

I.9 Tighten the Battery Cover into place.

J.   Strike Plate Installation

1. Use the template provided to create the strike plate mounting hole on the door frame.
2. Fasten the strike plate screws

Set Screw

Set Screw
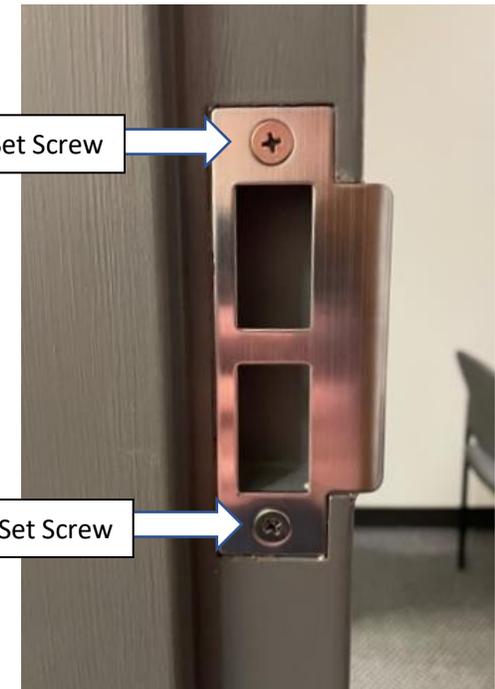
INSTALLATION TEMPLATE – FOR REFERENCE ONLY:

*(**NOT TO SCALE** - USE THE DISCRETE TEMPLATE FOR TO-SCALE DIMENSIONS)*

7.92in [201mm]

∅ 1" [25mm]

∅ 5/8" [16mm]

∅ 5/8" [16mm]

∅ 1 1/4" [32mm]

∅ 1/2" [13mm]

∅ 1/2" [13mm]

1.97in [50mm]

3.97in [101mm]

2.72in [69mm]

1.82in [46mm]

2.76in [70mm]

3.86in [98mm]

.23in [6mm]

FOLD HERE

∅ 1/8" [3mm] 2X

7 1/8" [181mm]

6 1/2" [165mm]

MORTISE CUT OUT FOR LOCK CASE 4 1/2" DEEP

1" [25mm]

FOLD HERE

3.86in [98mm]

2.76in [70mm]

1.82in [46mm]

3.97in [101mm]

2.72in [69mm]

.23in [6mm]

1.97in [50mm]

∅ 1/2" [13mm]

∅ 1/2" [13mm]

∅ 1 1/4" [32mm]

∅ 5/8" [16mm]

∅ 5/8" [16mm]

∅ 1" [25mm]

7.92in [201mm]

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Mortise Service Manual

Proxess

MAINTENANCE

TOOLS FOR MAINTENANCE

1.5mm Hex Wrench

#2 Philips Screwdriver

Core Turn Knob Tool
PN#: AX-309

Cylinder and Core Testing Wrench
PN#: AX-609

TROUBLESHOOTING HARDWARE

The following table illustrates possible causes and solutions for common problems after installing the lock hardware.

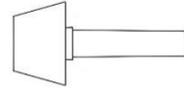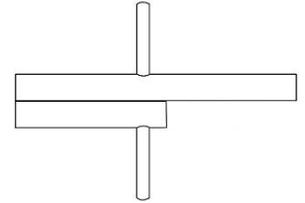| PROBLEM	CAUSE	SOLUTION
No beeps or blinks when the batteries are installed	Improper plug connection	Check all wiring and connectors to make sure the connectors are secure, and the cable is not pinched
	Reversed battery or dead batteries	Check the position of the batteries to make sure they are seated correctly
	Pinched wires or damaged cabling	Ensure the internal cabling is routed properly and cables have not been damaged during assembly
LED does not beep or blink on exterior when credential is presented	Batteries are dead and need to be replaced	Replace the batteries, synchronize the lock with the MPD and try the credential again
	Damaged or disconnected 6 pin cable	Check both ends of the 6-pin cable for proper connection.
MPD does not connect to the lock	Bluetooth is not enabled on the MPD	Enable Bluetooth in Settings
Red LED When credential is presented (Access Denied).	Improper Credential Permissions	Ensure the credential has appropriate access to the door.
	Lockset is in Lockdown	Have administrator take the lockset out of lockdown, or program the necessary credential to have "Pass-Through" privileges. (See software manual).

BEEP AND BLINK GUIDE

Operation indicators (Usually non-repeating)	Description
3 Red Beep/Blinks	The lockset has been set to toggle unlocked.
3 Green Beep/Blinks	The lockset has been set to toggle locked.

Warning Indicators (Will continue until problem resolved)	Description
3 Red Blinks (No Beeping)	Battery Low
3 Amber Beep/Blinks	Battery Critical
3 Double-Red Beep/Blinks	Battery Critical
3 Double-Red Beep/Blinks	Lockset Not Synchronized

Start-Up Sequence Beep/Blinks
If a problem with the lockset occurs, there may be a sequence of Beep/Blink indicators during start-up that will help to determine the problem. These will be 3 short Beep/Blinks followed by a series of longer Beep/Blinks. Please note them and contact a Proxess customer service representative.

BATTERY PERFORMANCE AND EXTREME CLIMATE USE

- Proxess locks use four AA batteries and are tested and validated using Duracell Coppertop™ alkaline batteries to over 70,000 cycles with physical credentials and over 90,000 cycles with only mobile credentials. Proxess locks are tested and validated using Energizer Ultimate Lithium™ batteries for extended temperature range support and offer similar performance to Duracell Coppertop™ batteries. However, any quality AA alkaline or non-rechargeable lithium battery should give acceptable performance.
- Average/Expected performance = 2 years (approximately 30 credential entries per day)
- Batteries are not covered under Proxess warranty.
- Disclaimer: Performance may vary based on environment, feature use, credential usage/type, how often the locks are synced, etc. Contact Proxess for questions related to expected performance in your system.
- For heavy usage doors that drain power in less than a year, Proxess recommends either a modified maintenance schedule or the external power feature (specify "EP" feature when ordering).
- Exterior use: Standard Proxess locks are approved for exterior use when the interior trim is not constantly exposed to exterior weather. For locks in which the interior trim is entirely exposed to exterior climates (pool gates, etc.) Proxess recommends the weatherized option (specify "W" feature when ordering). Proxess weatherized locks offer protection to interior electronics from precipitation and improved corrosion resistance. Weatherized locks also feature Energizer Ultimate Lithium™ batteries for extended temperature range support in very hot and cold conditions.
- Reported battery percentages assume the use of alkaline batteries; lithium batteries do **NOT** report correctly.
- Rechargeable batteries are **not** recommended.
- **Avoid** Heavy Duty (Zinc Carbon) or other chemistry batteries.

ADDITIONAL RESOURCES

SERVICE EQUIPMENT
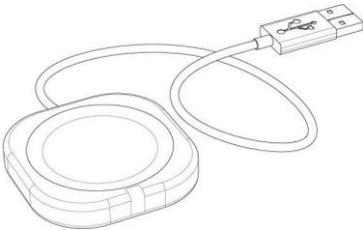
ENR™
*Enrollment Reader and Programmer*

Proxess' ENR™ makes the credential enrollment process intuitive and simple. Just place a credential on the desktop reader and a pop-up window automatically appears. From here you can create a new user, assign this card to an existing user, or view the details of an existing cardholder. A detachable USB-C cable broadens device compatibility for all modern PCs and most modern Android Smart Phones.

### NX™ Smart Credentials
Network on Card Smart Credentials

Proxess systems utilize the most advanced and flexible credential technology in the industry, DESFire EV1, 2, and 3, and add six layers of protection, encryption and mutual authentication, providing the most secure credentials in the industry.
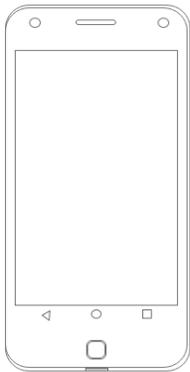
MPD Mobile Programming Device
Android Mobile Phone with no SIM Card

The Mobile Programming Device is used with the Proxess LoxIQ™ and ProxessSync™ software to build door groups, access profiles, time schedules, synchronize locksets, and so much more. It can also be used to assign high security Network on Card credentials to personalized profiles with the Proxess Enrollment Reader. ProxessSync™ software is currently available on Android devices with the Google Play Store. The LoxIQ™ software is available for both iOS and Android compatible devices. Please check our website for the latest capabilities for Proxess products.
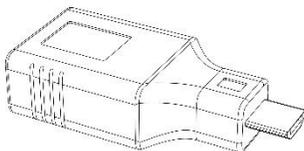
OTG On-the-Go Converter

The On-the-Go Converter is provided with some Mobile Programming Device and Enrollment Reader to assign credentials. Proxess offers OTG converters for Micro USB devices only.

For additional information about service equipment and Proxess products, please visit our website:

SOFTWARE SOLUTIONS FOR LOCKSET PROGRAMMING

LoxIQ™

LoxIQ™ is a software app created by Proxess, LLC. Instead of requiring all the expensive components of an access system (approx. $3k/dr), LoxIQ™ requires only the locks, a phone, and a programmer. Although the system has the capability of unlimited doors and users, it is typically implemented in smaller systems of 100 doors/users or less…Expandable to full server system software.

For more information about LoxIQ™, please visit our website:

http://www.proxess.com/Proxess/media/Proxess/Documents/loxIq-datasheet-20190114.pdf?ext=.pdf

ProxessIQ™

ProxessIQ™ is the enterprise access control software, supporting Proxess intelligent wireless locksets and door controllers. A ProxessIQ™ system can begin with a single wire-free lockset and incrementally expand to an unlimited number of locations, doors and users.

For more information about ProxessIQ™, please visit our website:

http://www.proxess.com/Proxess/media/Proxess/Documents/ProxessIQ-Scalable-ACS.pdf?ext=.pdf

Proxess Sync™

The Proxess Sync™ mobile phone App synchronizes changes from the ProxessIQ™ software to LoxIQ™ locksets across the country. It is the simplest to use configuration App, requiring just a click to perform the synchronizations. Strictly a performance App, it is secure and uncompromising. All of the configuration changes are securely made on the PC software and the App user simply clicks to have the changes executed.

For more information about Proxess Sync™, please visit our website:

http://www.proxess.com/Proxess/media/Proxess/Images/Solutions/Proxess-Sync-DS-Pg-1-(1).pdf?ext=.pdf

FCC STATEMENT

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 communication. 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 of the following measures:

Reorient or relocate the receiving antenna.
Increase the separation between the equipment and receiver.
Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
Consult the dealer or an experienced radio/TV technician for help.

FCC Caution:
Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

This device complies with part 15 of the FCC Rules. 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.

User Manual Notice required by Section 8.4 of ISED RSS-Gen Issue 5
Industry Canada Statement
This device contains licence-exempt transmitter(s)/receiver(s) that comply with Innovation, Science and Economic Development Canada's licence-exempt RSS(s). Operation is subject to the following two conditions:
1. This device may not cause interference.
2. This device must accept any interference, including interference that may cause undesired operation of the device.

Industrie Canada l'énoncé
L'émetteur/récepteur exempt de licence contenu dans le présent appareil est conforme aux CNR d'Innovation, Sciences et Développement économique 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;
2. L'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

FCC ID: 2AKUZPXH01
IC: 22335-PXH01
Product Marketing Name: MX-Series Mortise Lockset
Contains FCC ID: SH6MDBT50Q
Models (HVINS):
- PXHO1-CX03-B (CX-Series Cylindrical Lockset)
- PXH01-CX03-DC (CX-Series Lockset)
- PXH01-MX02-B (MX-Series Mortise Lockset)
- PXH01-MX02-DC (MX-Series Mortise Lockset)

UL STATEMENT (Pending)

Outside lever is normally locked. Inside lever always allows egress.
Unit shall not interfere with the operation of Panic Hardware.
Wireless communications, Wi-Fi, Bluetooth, Door Position, and Request to Exit features are not part of UL Listed product.
Tested to compliance with UL 294 5th Edition Class I.