CX- SERIES

SERVICE MANUAL

Proxess

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or call 303-317-6656

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INTRODUCTION

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

CERTIFICATIONS AND STANDARDS   3-A

ANSI/BHMA A156.25 (Indoor/Outdoor)	RoHS
ANSI/BHMA A156.2 Grade 1	Industry Canada (IC)
UL 294	ETSI EN 300 330-1
ULC S319 PDR	ETSI EN 301 489-1
UL10C Positive Pressure Rated	ETSI EN 301 489-3
UL10B Neutral Pressure Rated	CENELEC EN 61000-6-3
FCC Part 15	IEC61000-4-2 ESD Immunity
ADA Compliant	CENELEC EN 50130-4

DOCUMENTATION PACKAGE   3-B

DOCUMENT TITLE	DOCUMENT NUMBER
Cylindrical Installation Manual	PXM1001
User Manual	PXM1002
Software Manual	PXM1003

## TECHNICAL SUPPORT   3-C

The first source for technical answers is this CX Series Service Manual. 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.

Cylindrical Service Manual

FUNCTIONS AND PARTS LISTS

LOCK FUNCTIONS
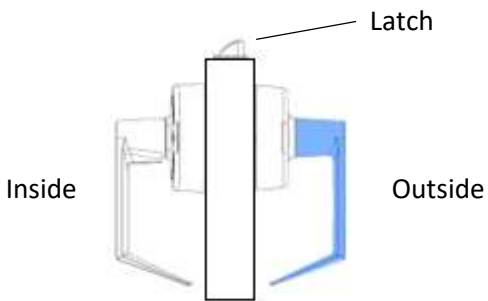
Latch   4-A

Shading indicates that
the lever is locked.

Inside   Outside

View looking down at
the top of the door

FUNCTION DESCRIPTIONS   4-B

All locks are supplied in Construction Mode as a default and functions are meant to be reprogrammed at customer site prior to installation. There is one SKU for all functions creating an inventory advantage over standard mechanical locks.
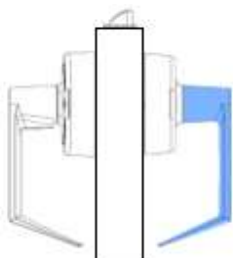
CC – Construction Mode: Factory default setting. In Construction Mode, factory programmed construction credentials granted access at the lockset to allow for testing prior to site programming. Upon first programming of the lock, the lock will switch to *Program Lock Function*. A system ID will be set by the site system allowing all credentials assigned to the site system access until the lock is reprogrammed.

Inside lever is always unlocked for single action egress.

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		Cylindrical Lock Functions	
Name	**Similar ANSI # Mech**	**Description**	**Proxess Electronic Equivalent Function**
Entrance	F109	Turn/Push button locking. Pushing and turning button on inside locks outside knob/lever requiring use of a key until button is manually unlocked. Push button locking. Pushing button locks the outside knob/lever until unlocked by key or by turning the inside lever/knob. Inside knob/lever always free.	Enable toggle schedule and double present credential to outside reader to lock/unlock door
Storeroom	F86	Outside knob/lever always rigid. Key required for entry. Inside always free.	A valid credential should provide momentary unlocking and allow entry by that user, with the latch relocking in an administrator defined time (usually 5-8 seconds)..
Office	F82	Push button locking. Button on inside locks outside knob/lever until unlocked by key, or by rotating the inside knob/lever. Inside knob/lever always free. Deadlocking latch bolt.	A valid credential should provide momentary unlocking and allow entry by that user, with the latch relocking in an administrator defined time (usually 5-8 seconds)..
Classroom no Lockdown	F84	Classroom/Office or Utility Room. Key locks/unlock outer knob or lever. Inside always free.	Enable toggle schedule and double present credential to outside reader to lock/unlock door.
Classroom w/Lockdown (Intruder)	F110	Deadlocking latch bolt operated by lever from either side. Key either inside or outside locks or unlocks outside lever. Inside lever always operates latch bolt.	Enable toggle schedule and double present credential to outside reader to lock/unlock door. Lockdown performed by gesture.
Classroom w/Lockdown (Intruder)	F110	Deadlocking latch bolt operated by lever from either side. Key either inside or outside locks or unlocks outside lever. Inside lever always operates latch bolt.	Enable toggle schedule and double present credential to outside reader to lock/unlock door. Lockdown performed by gesture.
Classroom w/Holdback	F85	Deadlocking latch bolt by knobs. Outside knob is locked by key in outside knob. Inside knob is always free. Latch may be held back by depressing latch and rotating key.	Enable toggle schedule and double present credential to outside reader to lock/unlock door. (electronic equivalent to F84, because unlocked door allows free entry)
Canadian Function		Deadlocking latch bolt by levers except when outside lever is locked by push button. Outside lever locked by pressing push button only.	Future Use Function
Patio	F77	Outside knob/lever locked by push button on inside knob/lever. Rotating inside knob/lever or closing door releases/unlocks button. Emergency release in outside knob/lever.	Future Use Function
Secured Privacy		Outside knob/lever locked by pushbutton on inside knob/lever. Rotating inside knob/lever or closing door releases/unlocks button. Emergency push button in outside knob unlocks door.	Future Use Function
Hotel Guest Room	F93	Outside knob fixed. Entrance by key only. Push button in inside knob activates visual occupancy indicator, allowing only emergency master key to operate. Rotation of inside spanner button provides lockout feature by keeping indicator projected.	A valid credential should provide momentary unlocking and allow entry by that user, with the latch relocking in an administrator defined time (no visual indicators)
Dormitory	F90	Deadlocking latch bolt by levers except when locked by push button in inside lever. Key in outside lever locks or unlocks outside lever and releases the button. Closing door releases push button. Inside lever always free.	Enable toggle schedule and double present credential to outside reader to lock/unlock door. (Closing door will NOT unlock the outside lever)
Service Station	F92	Deadlocking latch bolt by lever from either side except when outside lever is locked by Universal push button in inside lever. Inside lever is always free. When outside lever is locked, latch bolt may be retracted by turning key or rotating inside lever. Turning key, rotating inside lever or closing door releases Universal push button and outside lever, except when Universal push button has been rotated to a position which keeps the outside lever locked at all times.	Enable toggle schedule and double present credential to outside reader to lock/unlock door.
Exit Latch	F89	Deadlocking latch bolt by inside lever. Outside lever inoperable.	Mechanical lockset
Privacy	F76	Outside knob/lever locked by pushbutton on inside knob/lever. Rotating inside knob/lever or closing door releases/unlocks button. Emergency push button in outside knob unlocks door.	Mechanical lockset
Passage	F75	Doors that don't require locking.	Mechanical lockset

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PART AND PARTS LISTS

ST FUNCTION CHASSIS - *STANDARD*

Item	Part No.	Item	Part.No
1	C10-0040A	13	C01-0031A
2	A00-0001A	14	C02-0030A
3	C00-0001A	15	C00-0019A
4	C00-0006B	16	C00-0017A
5	C00-0016A	17	C00-0037A
6	C00-0012A	18	C00-0015C
7	C00-0011A	19	C00-0007B
8	C00-0041A	20	
9	C00-0018A	21	C00-0005B
10	C00-0021B	22	C00-0038B
11	C00-0036A	23	C00-0002A
12	C00-0020A		

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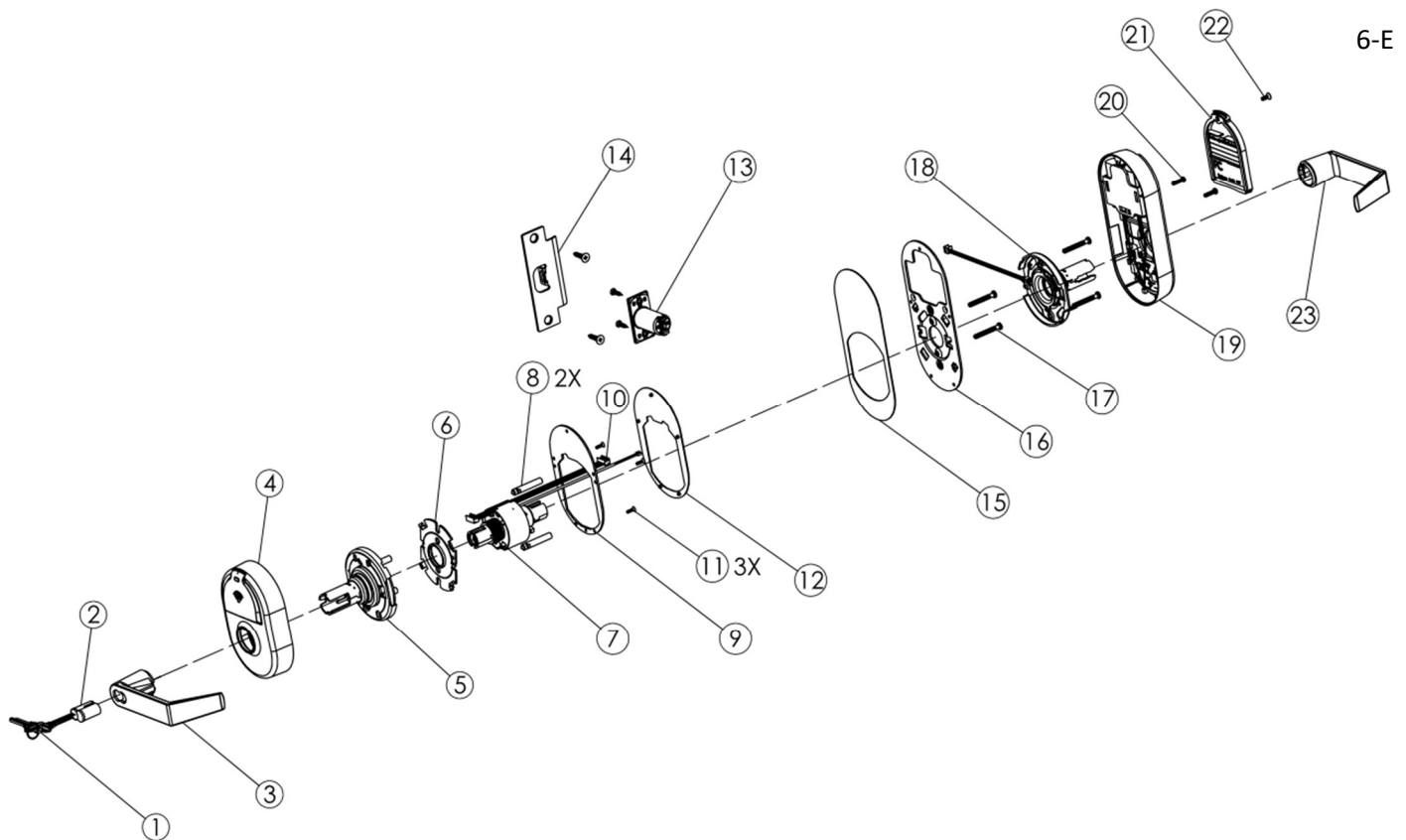
LATCH BACKSETS

B1   **B2**

Item	Part. No.	Description
B1	C01-0030A	2 3/4" (Standard)
B2	C02-0030A	2 3/8"
B3*	C03-0030A	2 3/4" Drive-in
B4*	C04-0030A	2 3/8" Drive-in
B5*	C05-0030A	5"
B6*	C06-0030A	3 3/4"

*Special Order

LATCHES

Optional latch extensions

61.1
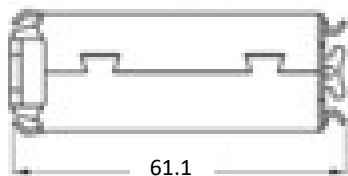
5" Backset (70mm) latch + 57mm extension tube for 5" (127mm) requirement

32.4

4.3
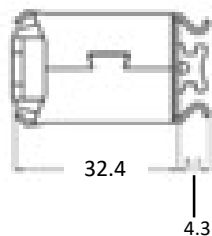
3 ¾" Backset (60mm) latch + 35mm extension tube for 3¾" (95mm) requirement

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STRIKE PLATES

S1   **S2**

Item	Part. No.	Description
S1	C01-0030A	2 ¾" strike
S2	C02-0030A	ANSI 4 ⅞" strike **(Standard)**

LEVERS

6   **8**   **9**

Item	Part. No.	Description
6	C06-0001A	Angled Return
8	C08-0001A	Curved Return **(Standard)**
9	C09-0001A	Curved No Return; (no lever return)

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MAINTENANCE

TOOLS FOR MAINTENANCE

| Lever Release Tool	Philips Screwdriver, #2	Core Turn Knob Tool	Cylinder and Core	Torx Wrench
(Included with lock)			Testing Wrench	(Included with lock)
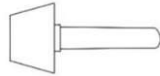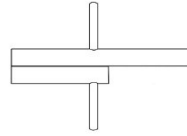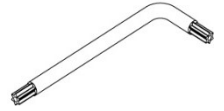
REPLACING LEVERS

TO *REMOVE* THE LEVER

1. If removing the exterior lever, first remove the removable core by inserting the control key and turning it 15 degrees clockwise, then pull out the removable core and key.
2. Line up the mechanism on the inside of the lock where the core was removed with a core turn knob tool.
3. Insert the pin of the lever release tool into the small hole at the base of the shaft on the lever.
4. Push in and then slide the lever off the sleeve of the lever shaft.

Lever shaft

Lever release tool
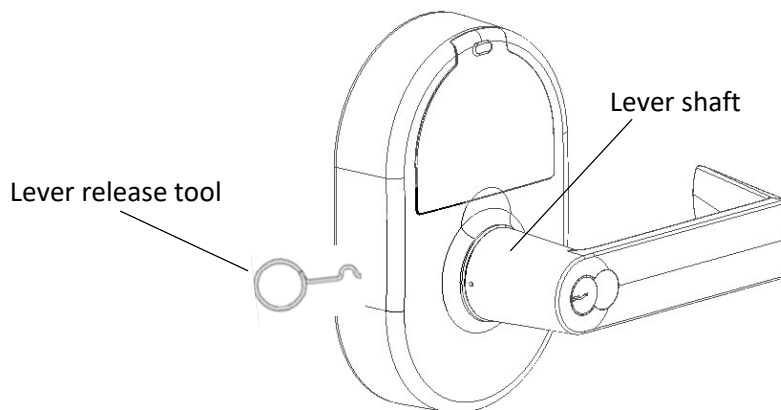
TO *REPLACE* THE LEVER

1. Position the lever so the handle points towards the door hinges.
2. Slide the lever onto the lock and push firmly until it is seated. If the lever does not easily seat, move the throw member with the core turn knob tool.
3. If replacing the exterior lever, reinstall the removable core by aligning the throw member (forked prongs) within the lock chassis and then sliding the core back in place. Turn the control key 15 degrees counterclockwise and remove the key.
4. Turn both levers to make sure they retract the latch if the door is unlocked.

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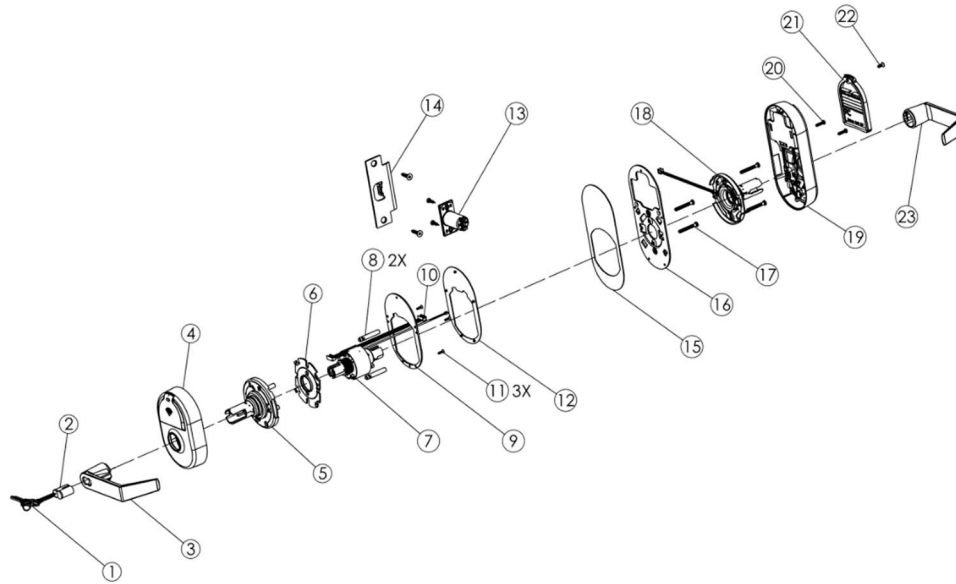Proxess

TROUBLESHOOTING

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 presented	Batteries are dead and need to be replaced	Replace the batteries, synchronized the lock with the MPD and try the credential again
MPD (Mobile phone device) 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).
MPD does not connect to the lock	Bluetooth is not enabled on the MPD	Enable Bluetooth in Settings

The Proxess cylindrical lockset will indicate certain conditions with a series of Beeps and Blinks.	
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.	

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CX-SERIES INSTALLATION INSTRUCTIONS

A. CHECKLIST (4 AA Batteries Included)

FOR DOOR AND FRAME PREPARATION INSTRUCTIONS, SEE APPENDIX A OR GO TO PROXESS.COM

Parts List: Each Proxess CX-Series lockset includes
- Door Preparation Template
- Cylindrical Lever Lockset with Installation Instructions
- Exterior lock assembly (include housing, lever and cylinder drive unit)
    1. Keys
    2. Removeable Core
    3. Exterior Lever
    4. Exterior housing (includes plastics and light pipes)
    5. Exterior Rose
    6. Chassis plate
    7. Chassis
    8. Through Bolt Posts
    9. Exterior Backplate
    10. Ribbon Cable
    11. Exterior Assembly Screws
    12. Exterior Gasket
- Hardware box includes:
    13. Latch
    14. ASA Strike Plate
    Screw Pack includes:
        - (SB1) Hager mounting screws M5 x 38mm x4pcs
        - (SB2) Flat head tapping screws #8x3/4" x2pcs
        - (SB3) Flat head tapping screws #12-24 x 18mm x2pcs
        - (SB4) Lever release tool
        - (SB5) Hager mounting screws M6 x 10mm x2pcs (optional)
        - (SB6) Torx Wrench
- Interior lock assembly
    15. Interior Gasket
    16. Interior Backplate
    17. Interior Backplate Screws
    18. Interior Rose
    19. Interior Housing
    20. Interior Housing Screws
    21. Battery Cover
    22. Battery Cover Screw
   23. Interior Lever
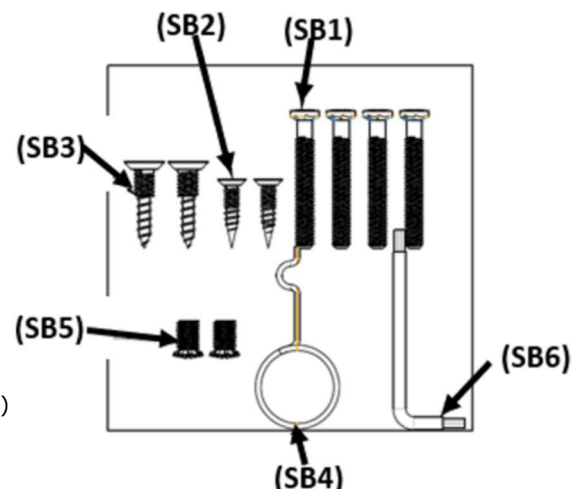
B. ADJUST FOR DOOR THICKNESS

Install exterior rose mounting plate onto the lock body by rotating it clockwise. Pay attention to the installation direction of mounting plate's anti-rotation tabs, they should be pointed toward the door.
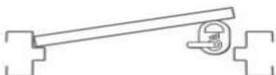
Clockwise rotation
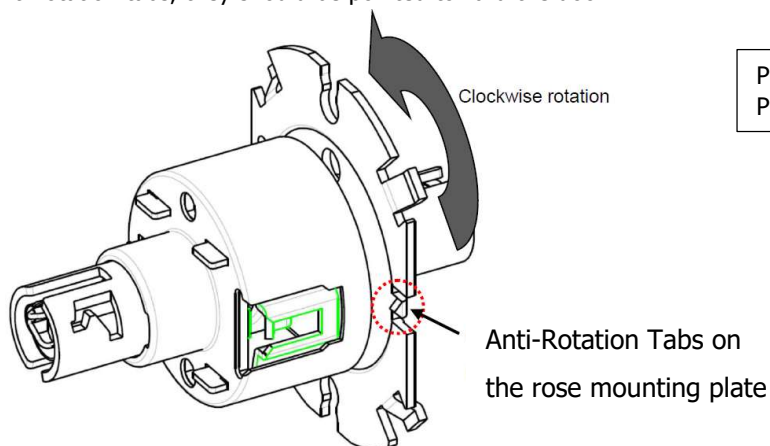
PLEASE NOTE THAT THE LOCK BODY COMES PRE-SET TO ACCOMMODATE A 1¾ INCH DOOR

Anti-Rotation Tabs on the rose mounting plate

1. Please follow the steps below:
    a. Rotate exterior rose mounting plate toward cylindrical chassis.
    b. Put the lever release tool into the allocated position of exterior rose mounting plate per the illustration below.
    c. Rotate exterior rose mounting plate to door thickness by using the lever release tool.

Door thickness mark

lever release pin

Adj

CATCH TOOL LOCATION

2"
1-3/4"
1-9/16"
1-3/8"

Outside rose mounting plate
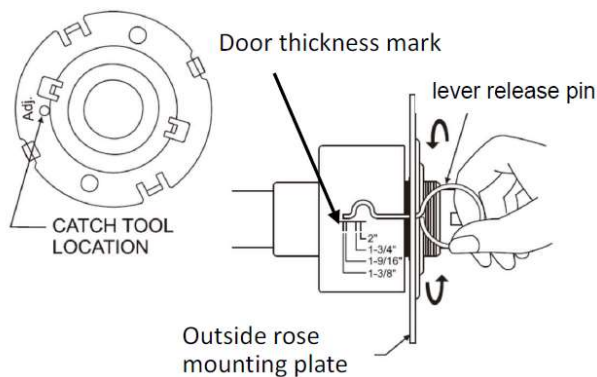
C. LOCK HANDING AND REHANDING (IF NECESSARY)

Determine the hand of your door. The product is set up for **Right Hand** by default.

Door Handing Chart

Indicates Key Side

Inside

RH
Right Hand

Inside

LH
Left Hand

Inside

RHR
Right Hand
Reverse

Inside

LHR
Left Hand
Reverse

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D. Hardware Installation Steps

STEP 1

Install the latch in the door. The latch tube prongs should project into the chassis hole.
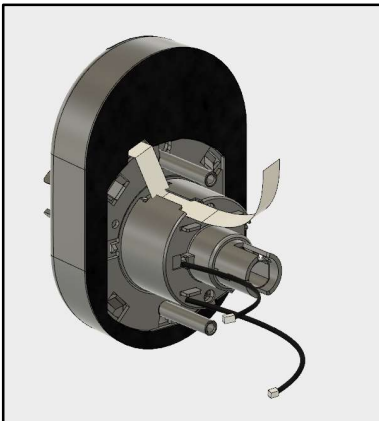
STEP 2

Install the strike plate, checking to make sure that the position of the deadlocking plunger is aligned against the strike plate.
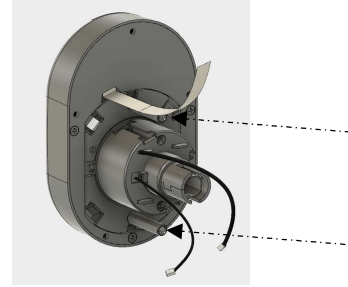
STEP 3

Ensure the cable from the exterior board is properly routed through the cylindrical lock chassis by first inserting one edge, then pressing the other into the cable slot.

STEP 4 (To Re-hand if Necessary)

1. To re-hand the lock chassis, begin by removing both the through bolt posts. See arrows below.

2. Remove the lock chassis and rotate both the internal mechanics and the chassis 180 degrees to accommodate the hand of the door. You will not need to remove the exterior gasket or backplate.

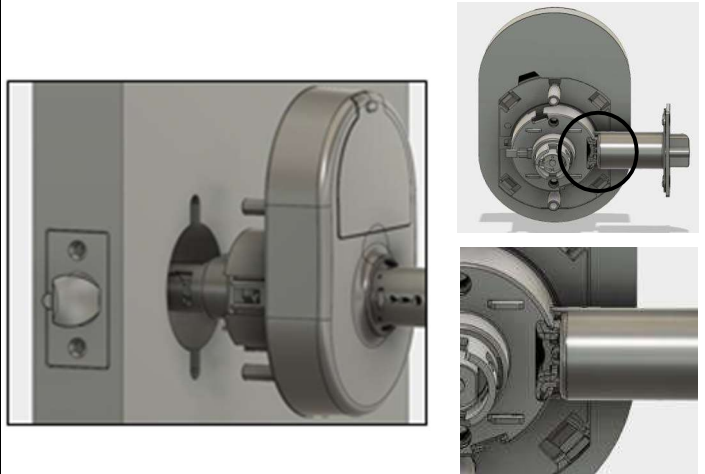3. Replace through bolt posts.

Re-handed lock chassis to accommodate left-handed door

STEP 5

Slide the lock chassis through the chassis hole in the door, ensuring that the chassis engages the latch.

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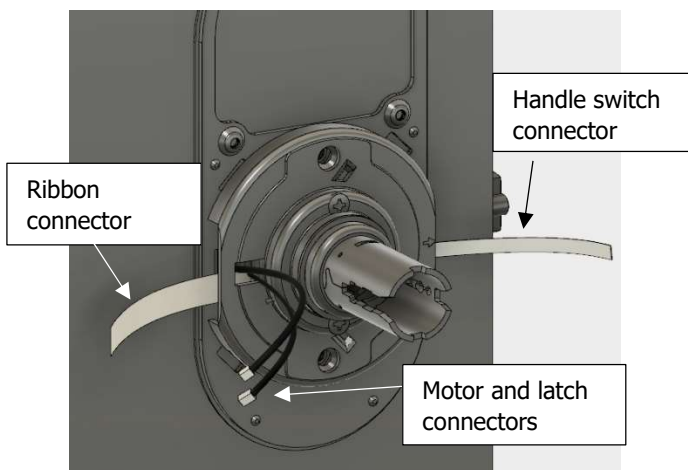| STEP 6	STEP 8
Place the back plate on the interior of the door with the upper and lower screws near the chassis. Wire the cable and wires as shown:	Connect the motor connector first, followed by the latch connector. Then connect the 4-pin handle switch connector. Connect the 10-pin cable last. Note: The battery cable should already be pre-connected.

Battery connector   Motor connector

Ribbon cable

Handle switch connector

Latch connector

1
4
2
3
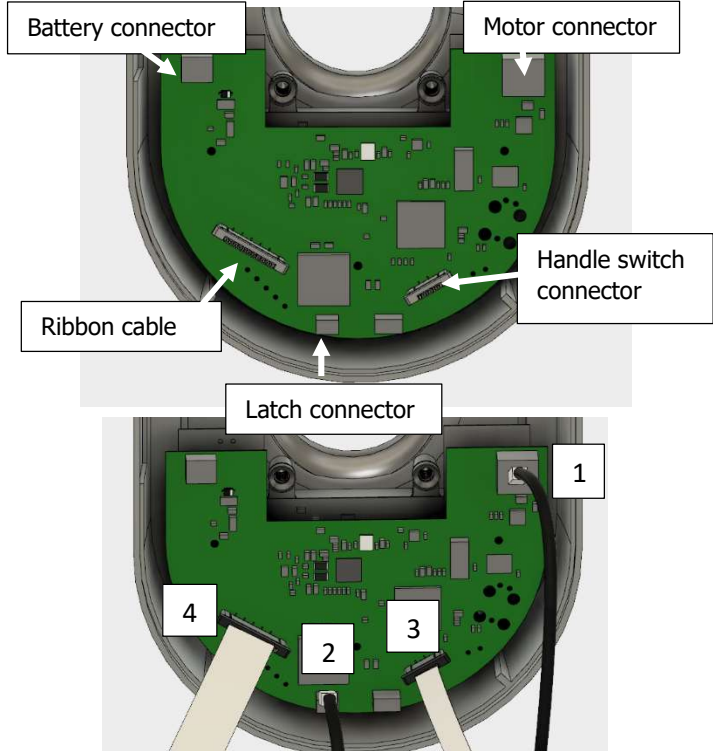
STEP 7	STEP 9
Place the interior rose liner on the interior back plate and screw in. Ensure that all wiring go through the oval holes in the rose liner. Ribbon and latch cables together when right-handed, ribbon and handle switch when left-handed.	Place the motor wire on top of the handle assembly when installing the interior trim onto the back plate. Screw the interior trim onto the back plate using the two screws on the right and left of the battery hole.

Handle switch connector

Ribbon connector

Motor and latch connectors

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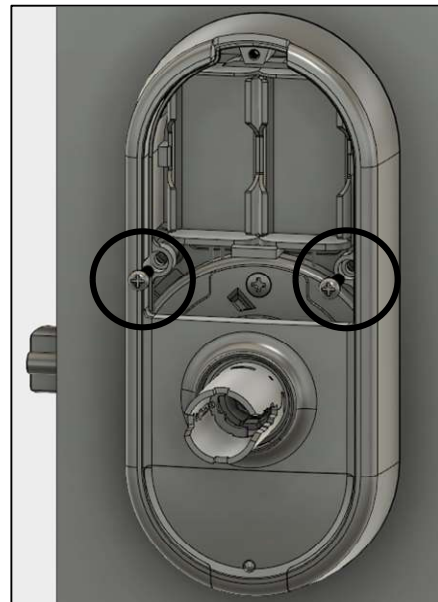
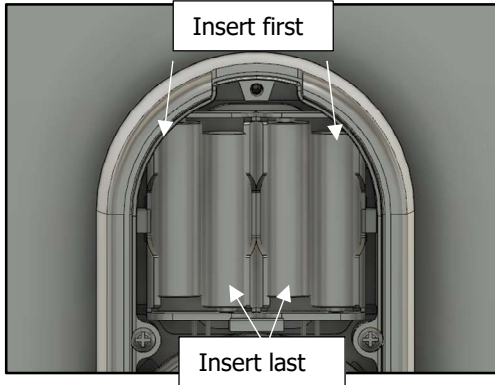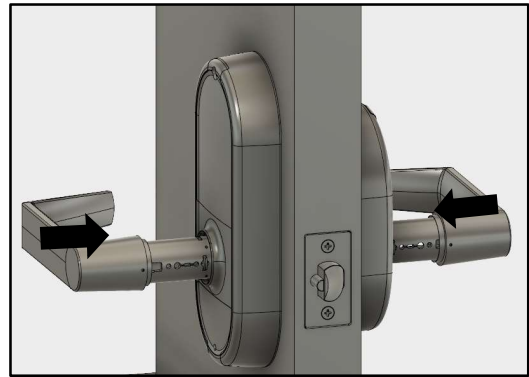| STEP 10	STEP 12
Install the four AA batteries, beginning with the outer two. Insert first Insert last After the batteries are properly installed, the lock should beep once and the motor will run. **The lock is then in the locked position.**	Install the levers onto the outside and inside of the door. See tips for exterior handle prior to installation.
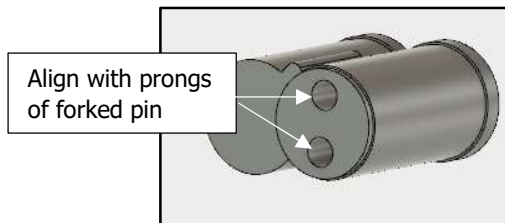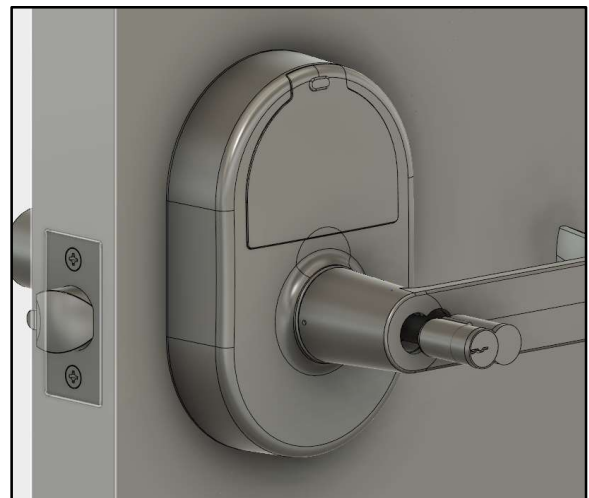
STEP 11	STEP 13
Screw the battery cover onto the trim.	Install the removable core. Align with prongs of forked pin Once the removable core is aligned with the forked pin in the lock, insert the control key and turn clockwise 15 degrees to retract the locking lug, then insert the core into the lever. Turn the control key back counterclockwise 15 degrees to engage the core and remove the key.

E. Now that the hardware is installed, see "Software Solutions" in this manual to locate your software resources and begin programming.

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A. CHECKLIST

Tools for Door Preparation
- Drill
- Drill Bits: 1" (31/32" for drive in latch), 13/16", 3/8", 5/16"
- Hole Saw: 2-1/8"
- Phillips Screwdriver, #2
- Hammer
- Chisel

B. DOOR PREPARATION

1. Doors: Steel or Wood
2. Door thickness range: 1-3/8" (35mm) ~ 2" (51mm).
3. Match the Backset of your Proxess C-Series lockset to the corresponding installation (either 2-3/8" [60 mm] or 2-3/4" [70 mm] Backset).
4. Place the installation template onto the door and mark holes. Drill the 2 1/8" (54 mm) first, then drill the two 5/16" (8mm) holes for lock chassis mounting. Drill the 1" (25 mm) cross bore hole for the latch last.
5. Insert latch into 1" hole and hold it parallel to door face, mark outline and remove latch. Chisel 11/64" (4.3mm) deep or until faceplate is flush with the edge of the door. Insert latch into the 1" hole again, making certain that the latch bolt bevel faces direction of closing door (see section E for Lock Handing).
6. Secure the latch to the door using two #8x3/4" screws (SB2).

Backset folding line

Closing Direction

Template
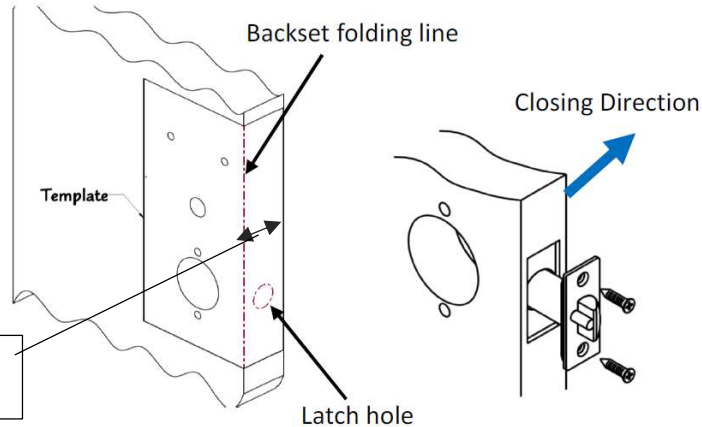
Backset thickness – note that lock is preset to standard 1¾ inch door

Latch hole

NOTE: Removing the through bolt posts from the chassis will decrease the security of the lock, converting it from Grade 1 to Grade 2.

C. FRAME PREPARATION

1. Close the door and mark the horizontal line aligned to the strike.

2. Measure one half of door thickness from door stop to mark vertical center line of strike. Drill 1" (25 mm) hole, 1/2" (12.7 mm) deep at intersection of horizontal and vertical center lines.

3. Chisel out the jamb 3/32" (2.4mm) deep or until strike is flushed with jamb and then secure the strike to the jamb using two #12-24 x 1" screws (SB3).

a

CENTER LINE

b

DOOR STOP

1" (25.4mm) hole
1/2" (12.7mm) deep

c

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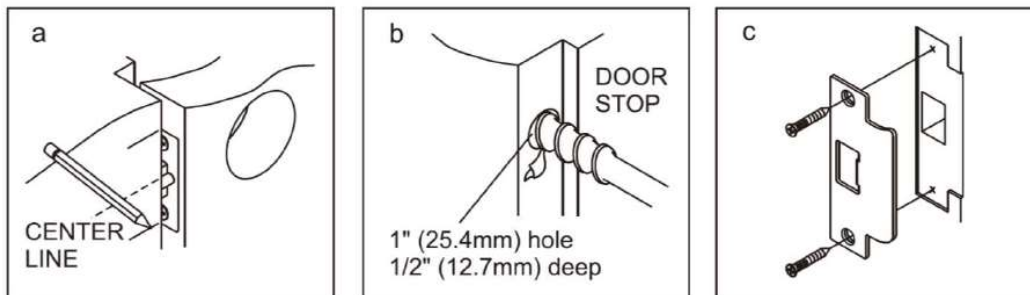
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ADDITIONAL RESOURCES

SERVICE EQUIPMENT
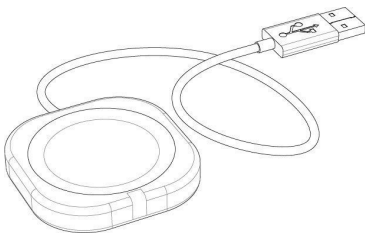
ENR™
Enrollment Reader and Programmer

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.

NX™ Smart Credentials
Network on Card Smart Credentials

Proxess systems utilize the most advanced and flexible credential technology in the industry, DESFire EV2, 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™ software to build door groups, access profiles, time schedules, 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 and On-the-Go Converter. Proxess software is currently compatible with only Android devices. However, we are excited to develop software with IOS capabilities. Please check our website for the latest capabilities for Proxess products.
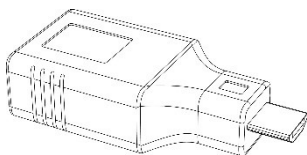
OTG On-the-Go Converter

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

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

www.proxess.com

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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/Images/Graphics/loxiq_datasheet_4pg_06.pdf?ext=.pdf

ProxessIQ™

ProxessIQ™ is the scalable 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 locksets across the country. It is a simple to use configuration App, requiring just a click to perform the synchronizations. Strictly a performance App, it is secure and uncompromising. The App user simply clicks in Proxess Sync™ to have the changes securely made on the PC software executed at the lockset.

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 A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

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.

Industry Canada Statement
Under Industry Canada regulations, this radio transmitter may only operate using an antenna of a type and maximum (or lesser) gain approved for the transmitter by Industry Canada. To reduce potential radio interference to other users, the antenna type and its gain should be so chosen that the equivalent isotropically radiated power (e.i.r.p.) is not more than that permitted for successful communication.

Industrie Canada Déclaration
Conformément à la réglementation d'Industrie Canada, le présent émetteur radio peut fonctionner avec une antenne d'un type et d'un gain maximal (ou inférieur) approuvé pour l'émetteur par Industrie Canada. Dans le but de réduire les risques de brouillage radioélectrique à l'intention des autres utilisateurs, il faut choisir le type d'antenne et son gain de sorte que la puissance isotrope rayonnée équivalente (p.i.r.e.) ne dépasse pas l'intensité nécessaire à l'établissement d'une communication satisfaisante.

Industry Canada Radiation Exposure Statement
This Device complies with Industry Canada License-exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

Industrie Canada l'exposition aux radiations
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'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

UL STATEMENT

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.

Cylindrical Service Manual

Proxess