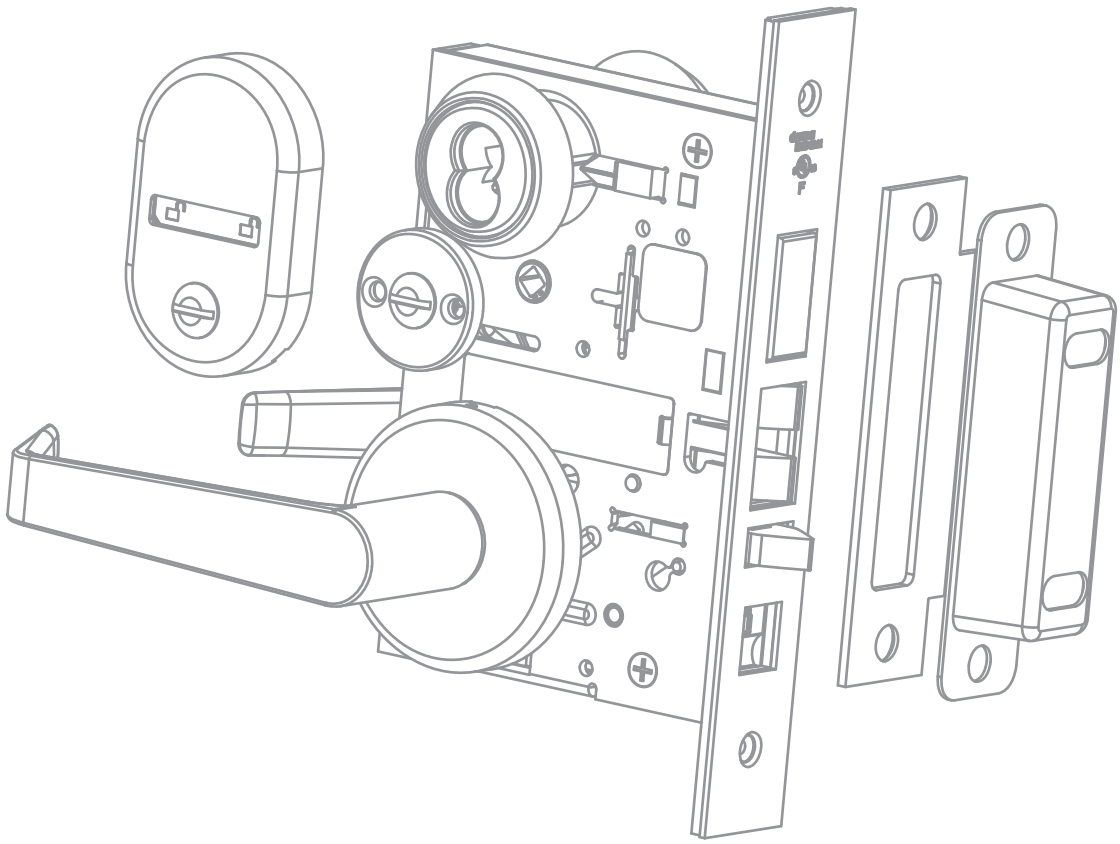
dormakaba

Electrified mortise locks
M1000 series

Installation Instructions



94739_C - 12/2023
Original document

EN

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1 Technical specifications

1.1 Overview

Parts list (Sectional trim)

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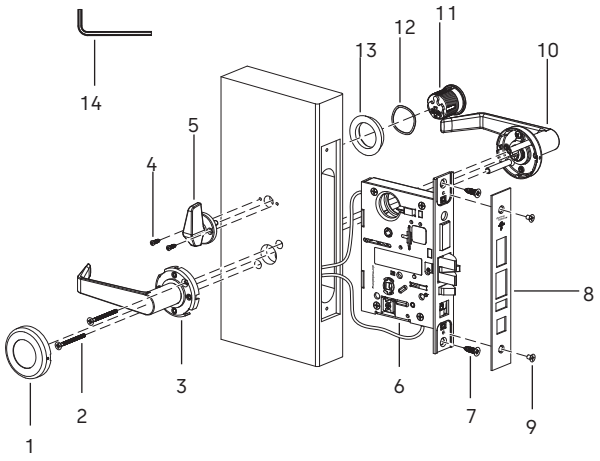
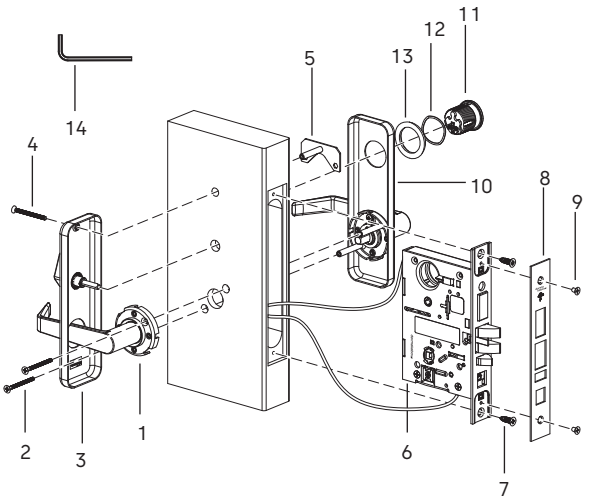
2. 8-32 x 1-3/4" screws
3. Inside lever assembly
4. #6-1/2" screws
5. Thumb turn
6. 24V chassis
7. 12-24 x 13/4" combo-screws
8. Armor plate
9. 8-32 x 1/4" screws
10. Outside lever assembly
11. Mortise cylinder
12. Wave washer
13. Cylinder ring
14. Allen key (included)
15. Temperature Control Module (TCM) (Not shown)



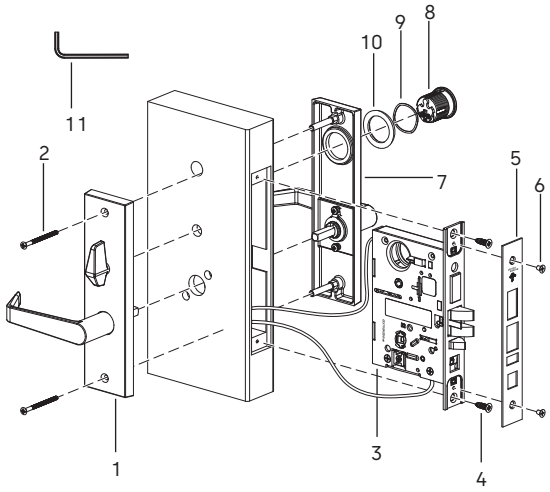
Parts list (M escutcheon trim)

1. Inside lever assembly
2. 8-32 x 1-1/4" screws
3. Inside escutcheon assembly
4. 8-32 x 1-3/4" screws
5. Escutcheon mounting plate
6. 24V chassis
7. 12-24 x 3/4" combo-screws
8. Armor plate
9. 8-32 x 1/4" screws
10. Outside escutcheon assembly
11. Mortise cylinder
12. Wave washer
13. Cylinder ring
14. Allen key (included)
15. Temperature Control Module (TCM) (Not shown)



Parts list (H escutcheon trim)

1. Inside escutcheon assembly
2. 10-32 x 2-1/8" screw
3. 24V chassis
4. 12-24 x 3/4" combo-screws
5. Armor plate
6. 8-32 x 1/4" screws
7. Outside escutcheon assembly
8. Mortise cylinder
9. Wave washer
10. Cylinder ring
11. Allen key (included)
12. Temperature Control Module (TCM) (Not shown)

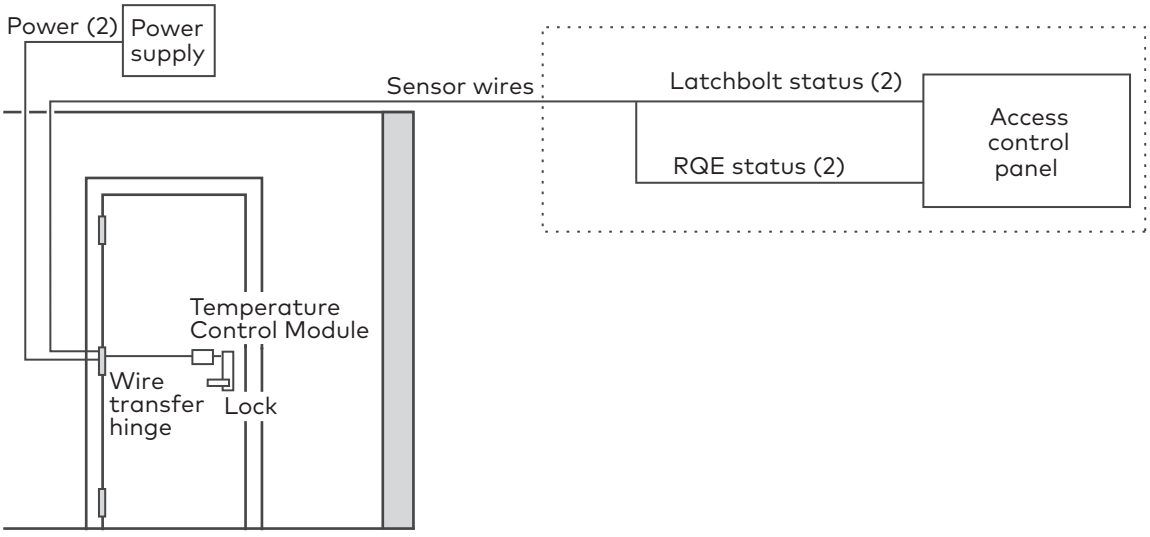


NOTE:
Electrical specifications: 24 VDC

1.2 Tools required

#2 Phillips screwdriver	1" spade bit
#3 Phillips screwdriver	3/8" drill bit

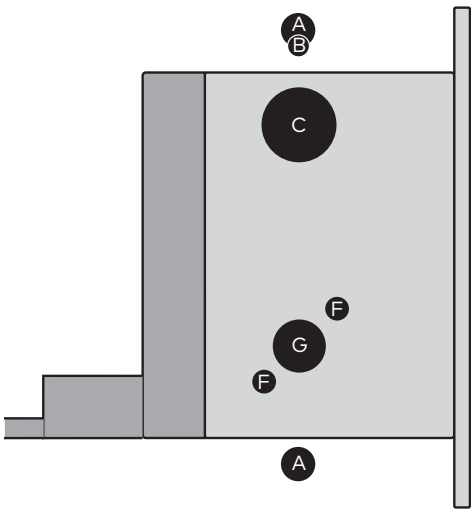
1.3 Wiring diagram



2 Finishing the door preparation

2.1 Identify holes to drill

2.1.1 Determine lock function to be installed.
2.1.2 Determine inside and outside, hand, and bevel of the door.
2.1.3 Use table to determine holes to be drilled for lock function. For hole sizes, see Template 93738.



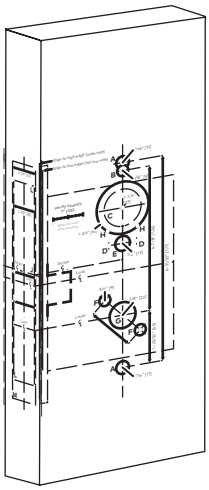
Holes to drill	Functions: M1080 EL, EU I/S	M1080 EL, EU O/S	M1082 EL, EU I/S	M1082 EL, EU O/S
A H forged trim*	Through door		Through door	
B M stamped trim*	Through door		Through door	
C Standard cylinder		■	■	■
F Trim mounting (2 holes)**	■	■	■	■
G Lever**	■	■	■	■

* Determine trim holes based on trim type.
** Because these holes pass through the mortise pocket, it is recommended that each hole be drilled separately rather than straight through.

2.2 Align templates

NOTE: If door is a fabricated hollow metal door, determine whether it is properly reinforced to support lock. If door reinforcement is not adequate, consult door manufacturer for information on proper reinforcement. For dimensions for preparing metal doors, see document 94724.

2.2.1 Separate templates provided on document 93738.
2.2.2 Position one of door edge templates on door, making sure that the lock case mortise shown on template aligns with mortise pocket prepared in door.
2.2.3 Using the centerlines on door edge template as a guide, position appropriate door template on each side of door. Make sure to take the bevel into account. Tape templates to door.



2.3 Center punch and drill holes

2.3.1 Center punch necessary drill points. See instructions on template.
2.3.2 Drill holes.

NOTE: To locate center of a hole on opposite side of door, drill a pilot hole completely through door.

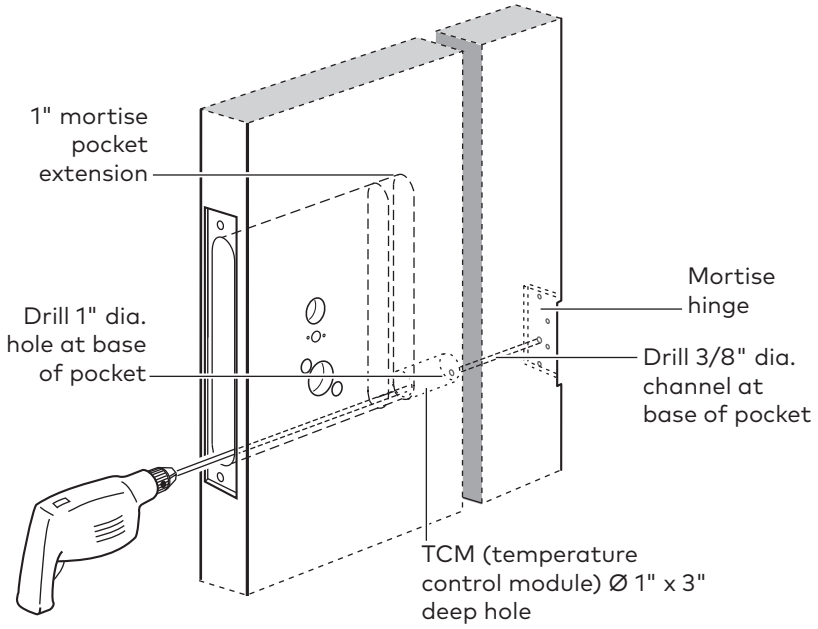
NOTE: For holes through door, it is best to drill halfway from each side of door to prevent door from splintering.

2.4 Drill wire channel through door

CAUTION: Check with your local fire marshal before drilling a fire-rated door. Drilling through a fire-rated door may void fire label.

CAUTION: Be cautious when drilling through the door. Ensure the drill does not break through face of door.

2.4.1 Remove hinge nearest the mortise cavity.
2.4.2 Extend mortise pocket one inch as shown.
2.4.3 Drill a Ø 1" x 3" hole at base of mortise pocket as shown.
2.4.4 Using a 3' to 4' drill bit, drill a 3/8" diameter channel from the base of the 1" diameter hole at the base of mortise pocket to center of nearest mortise hinge as shown.



2.5 Determine wire gauge for power wiring

NOTE: It may be easier to drill halfway from each side of the door.

2.5.1 Calculate total length of power wire run by adding the distance from power supply to first door. If powering more than one door daisy-chain to the same power supply, add total distance of power runs between doors.

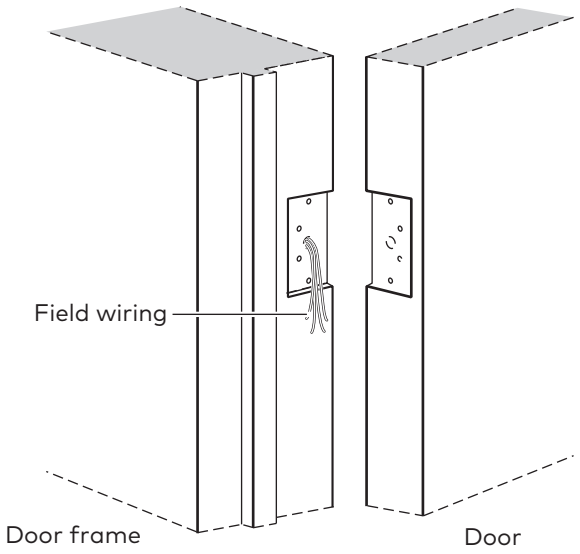
2.5.2 Refer to table to determine minimum wire gauge based on the number of doors sharing power supply and total length of wire run.

1 door	2 doors	3 doors	4 doors	Min. wire gauge (24V)
250 ft.	125 ft.	75 ft.	60 ft.	18 AWG
400 ft.	200 ft.	130 ft.	100 ft.	16 AWG
600 ft.	300 ft.	185 ft.	150 ft.	14 AWG

2.6 Prepare door for wire transfer hinge and run field wiring

To match the sensor wire colors, refer to the table below:

Wire connection	Color	No. of wires
24V power	Blue	2
Latchbolt status sensor	Violet	2
RQE status sensor	Brown & orange	2



2.6.1 Drill a wire access hole through frame side of mortise hinge where the hinge was removed in step 2.4.1.

2.6.2 Drill holes (or pockets) for splice connectors in frame and door. Refer to hinge manufacturer's specifications for hole location.

2.6.3 De-burr holes to prevent damage to hinge leads.

2.6.4 Run power field wiring from location for lock's power supply to location for wire transfer hinge.

NOTE: To match lock's wire color, use blue for 24 volts DC power.

2.6.5 If lock has optional latchbolt status sensor and/or RQE status sensor, run sensor wiring from location of access control panel to location for wire transfer hinge.

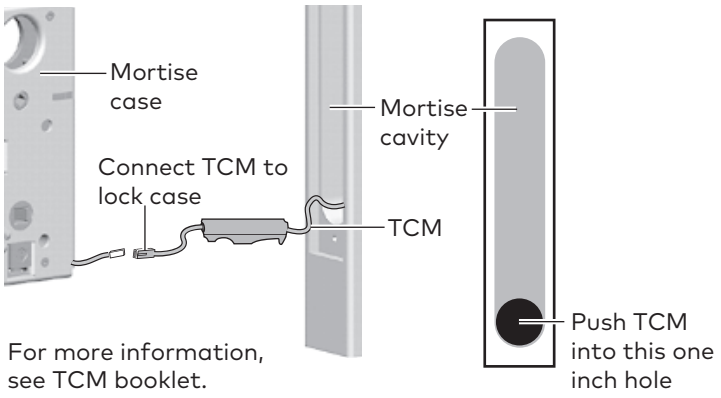
2.6.6 Pull field wiring down wall and through access hole in frame.

3 Installing the mortise case

3.1 Connect Temperature Control Module

3.1.1 Connect Temperature Control Module (TCM) to lock.
3.1.2 Fish TCM wires through door channel, making sure to position TCM inside the 1" diameter hole extension at the base of mortise cavity as shown.

NOTE: In some door applications (for example fire doors), it may not be possible to make extra holes into door. In such scenarios, the TCM may be installed in a secure location at no more than 20 feet from door.



For more information, see TCM booklet.

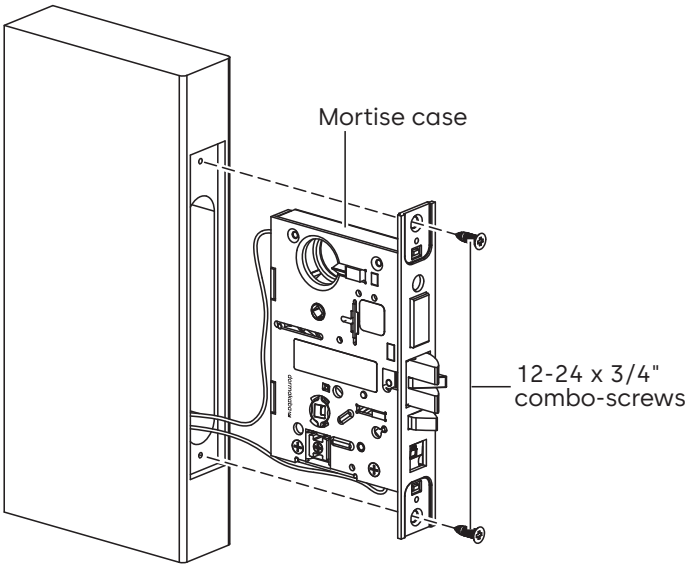
3.2 Install mortise case

CAUTION: Check mortise handing prior to installation.

3.2.1 Drill holes for case mounting screws.
3.2.2 Insert mortise case into mortise cavity, feeding all sensor and solenoid wires into mortise cavity.

NOTE: The armored front of mortise case self-adjusts to door bevel.

3.2.3 From hinge edge of door, fish all sensor and solenoid wires from mortise cavity through wire channel to hinge mortise.
3.2.4 Secure mortise case with two 12-24 x 3/4" screws.



3.3 Install wire transfer hinge

3.3.1 Trim power and sensor wires that were pulled through hinge edge of door. Leave sufficient length to connect to wire transfer hinge and to allow for future splices.

3.3.2 Splice field wires to leads on frame side of hinge, following hinge manufacturer's instructions.

3.3.3 Splice power and sensor wires from lock to leads on door side of hinge, matching each lead to its corresponding wire.

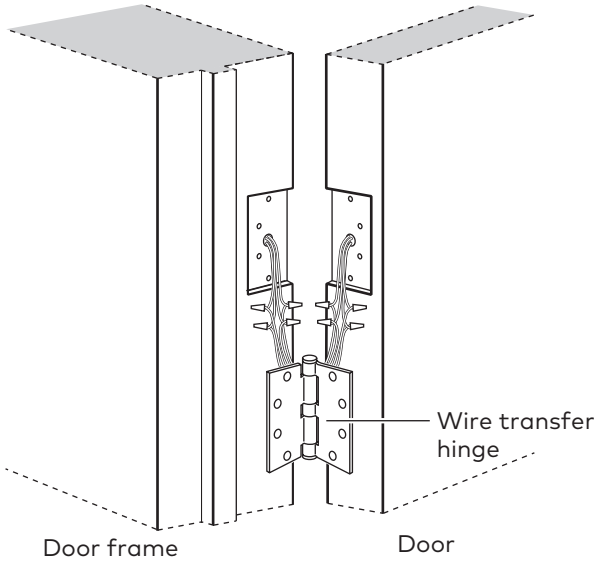
NOTE: If lock has optional RQE status sensor, only splice pair of RQE wires for switch on inside of door, which was identified in step 3.2.1. Put unused pair of RQE wires in door.

3.3.4 Insert wires and splice connectors into holes or pockets in door and frame, being careful not to pinch wires. Install wire transfer hinge.

NOTE: dormakaba recommends one of the following concealed electric hinges. For more information, contact your dormakaba representative.

Hinge	Description
CECB 179-66	Standard weight; steel
CECB 168-66	Heavy weight; steel
CECB 191-66	Standard weight; brass

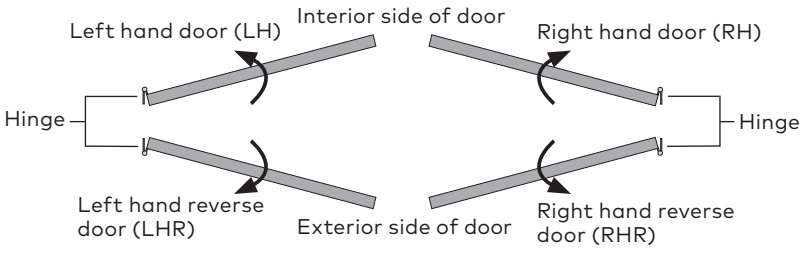
NOTE: All hinges measure 4.5" × 4.5" and have a 26D finish. All hinges have two 24 AWG wires rated for 2 A at 12 or 24 volts (AC or DC) and four 28 AWG wires rated for 1 A at 12 or 24 volts (AC or DC).



4 Configuring the door handing (if necessary)

4.1 Determine door handing

4.1.1 Change latch bolt handing if it does not match door handing.

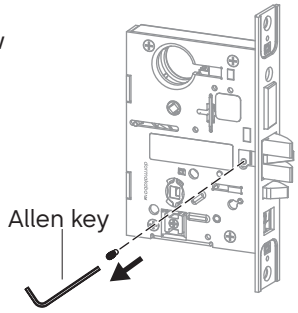


4.2 Hand latchbolt (if necessary)

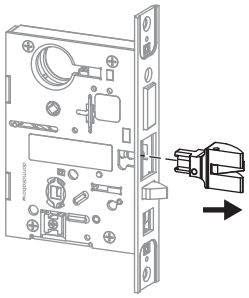
4.2.1 Determine if necessary to rotate latchbolt to match handing of door.

NOTE: The latch foot of latchbolt must contact strike when door closes.

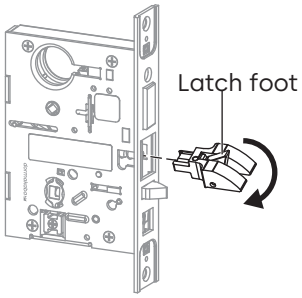
4.2.2 Remove latch bolt set screw with provided Allen key.



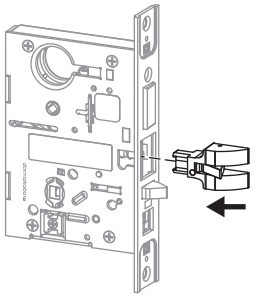
4.2.3 Remove latch from mortise lock.



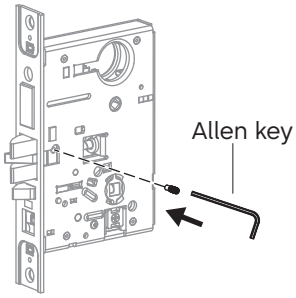
4.2.4 Rotate latch 180°.



4.2.5 Reinstall latch into lock.



4.2.6 Reinstall latch bolt set screw and tighten securely.

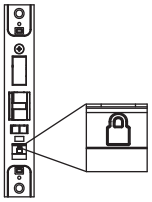


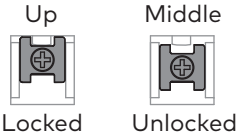
NOTE: Orient latch as seen in the images.
NOTE: Be sure latch foot is raised when reinserting latch.

4.3 Position hub toggles (if necessary)

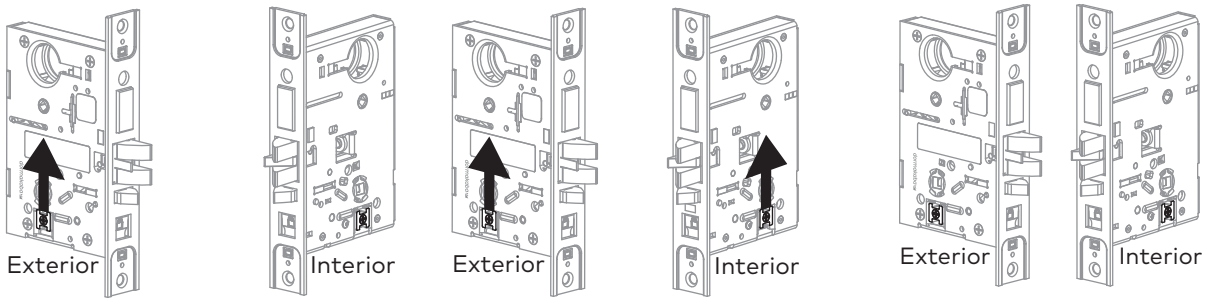
CAUTION: Make sure mortise is locked before adjusting hub toggles.

CAUTION: Setting hub toggles incorrectly can trap people in room.





Function	Type	Function	Type
M1080EL, M1080EU	Exterior: Up (locked) Interior: Middle (always unlocked)	M1082EL, M1082EU	Both up



4.3.1 Check whether hub toggles are in proper position for lock.

4.3.2 To change position of a hub toggle, remove toggle screw, move toggle into desired position, and re-tighten screw.

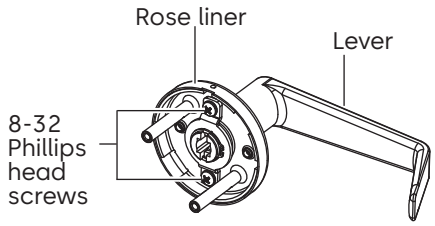
NOTE: For LH & LHR doors, the inside is the back side of case and the outside is the cover side of case. For RH & RHR doors, the inside is the cover side of case and the outside is the back side of case. The cover is mounted to case with 4 screws.

NOTE: If lock has optional RQE status sensor, two RQE status switches are installed in mortise case. However, only the switch for inside of lock needs to be connected. Before installing the mortise case in door, determine whether you need to connect the 'Case Side' pair of RQE wires (LH & LHR) or the 'Cover Side' pair of RQE wires (RH & RHR), based on handing of door.
(See door handing chart in step 4.1 for reference).

4.4 How to hand trim (if necessary)

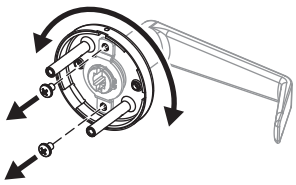
CAUTION: Do not over tighten.

Sectional trim - dummy trim

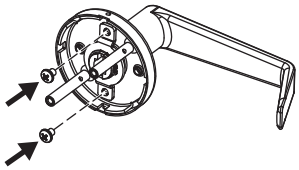


4.4.1 Remove both 8-32 Phillips head screws.

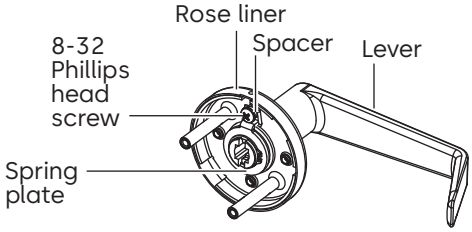
4.4.2 Rotate rose liner 90°.



4.4.3 Reinstall both 8-32 Phillips head screws through mount plate.

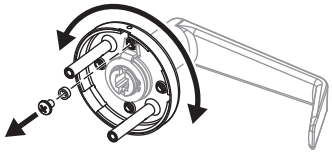


Sectional trim - spring trim



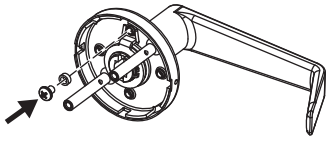
4.4.1 Remove 8-32 Phillips head screw and spacer.

4.4.2 Rotate rose liner 90°.



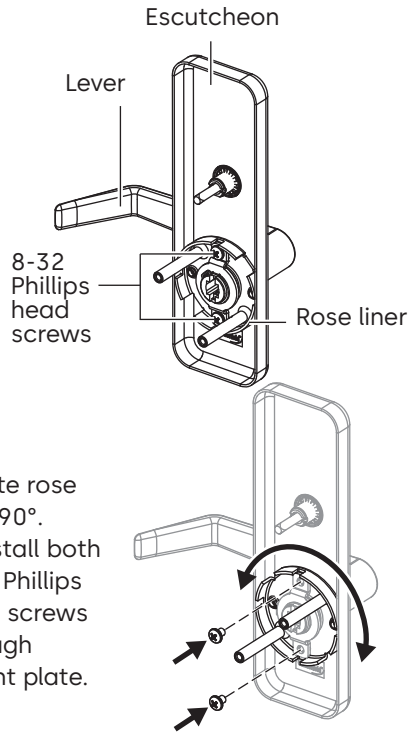
4.4.3 Reinstall 8-32 Phillips head screw and spacer.

NOTE: Spacer wedges between spring arms.

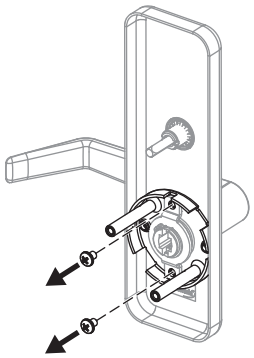


NOTE: Steps are the same for inside or outside trim.

M trim - dummy trim



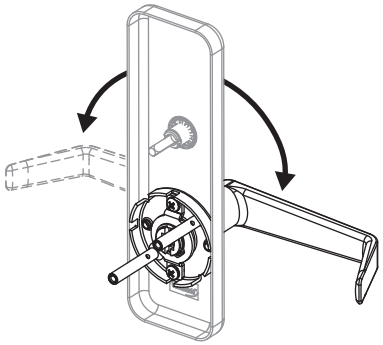
4.4.1 Remove both 8-32 Phillips head screws.



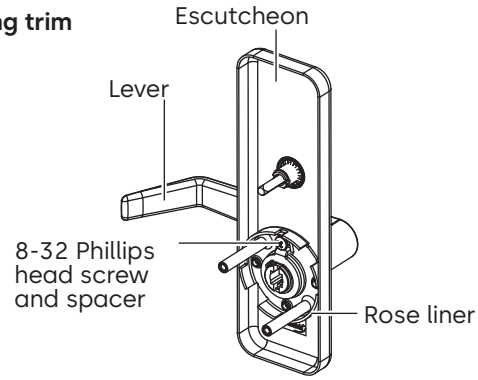
4.4.2 Rotate rose liner 90°.

4.4.3 Reinstall both 8-32 Phillips head screws through mount plate.

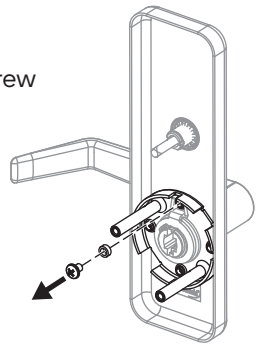
4.4.4 Rotate lever and liner assembly 180° relative to escutcheon.



M trim - spring trim



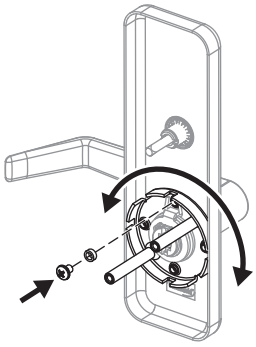
4.4.1 Remove 8-32 Phillips head screw and spacer.



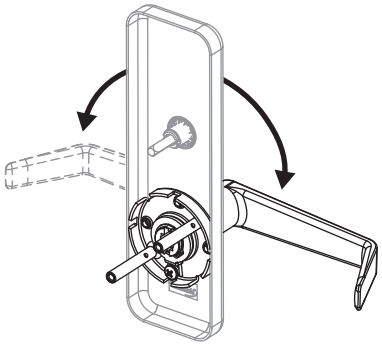
4.4.2 Rotate rose liner 90°.

4.4.3 Reinstall Phillips head screw and spacer.

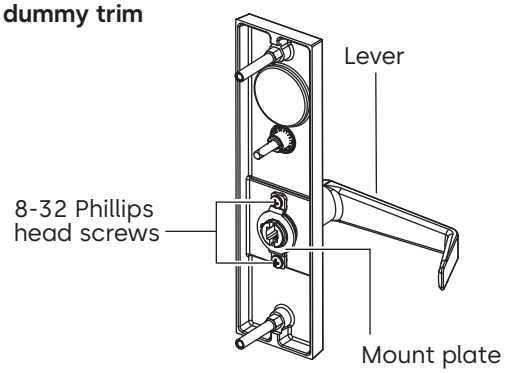
NOTE: Spacer wedges between spring arms.



4.4.4 Rotate lever and liner assembly 180° relative to the excutcheon.



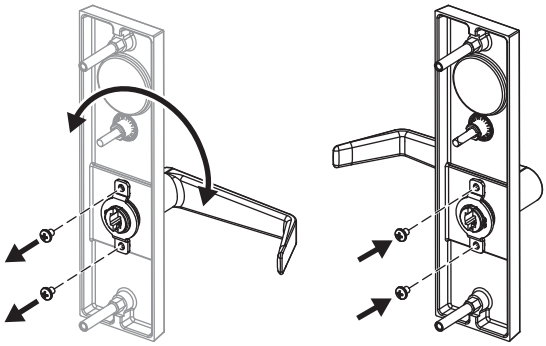
H trim - dummy trim



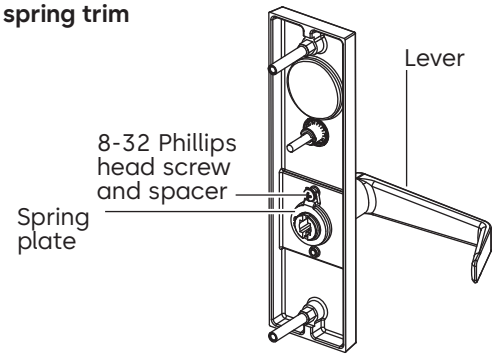
4.4.1 Remove both 8-32 Phillips head screws.

4.4.2 Rotate lever and mount plate 180°.

4.4.3 Reinstall both 8-32 Phillips head screws.



H trim - spring trim

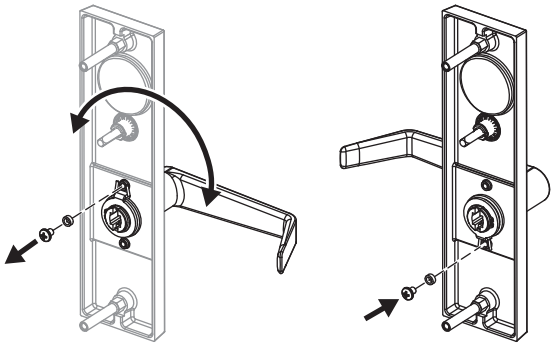


4.4.1 Remove 8-32 Phillips head screw and spacer.

4.4.2 Rotate lever and spring plate 180°.

4.4.3 Reinstall 8-32 Phillips head screw and spacer.

NOTE: Spacer wedges between spring arms.



5 Installing the trim components

5.1 Install trim

Sectional trim

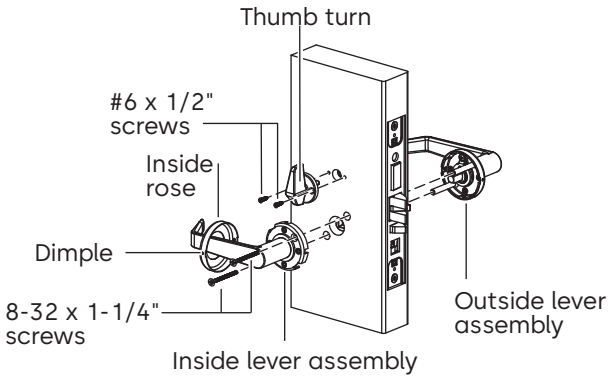
5.1.1 Place outside lever/rose assembly onto outside face of door.

5.1.2 Place inside lever assembly against inside face of door and secure with two 8-32 x 1-1/4" screws.

5.1.3 Slide rose over lever and firmly press onto insert, oriented with dimples on sides.

5.1.4 Secure thumb turn to door with two #6 x 1/2" screws.

NOTE: Ensure spindle and thumb turn engage mortise chassis.



M escutcheon trim

5.1.1 Place escutcheon mounting plate against outside face of door.

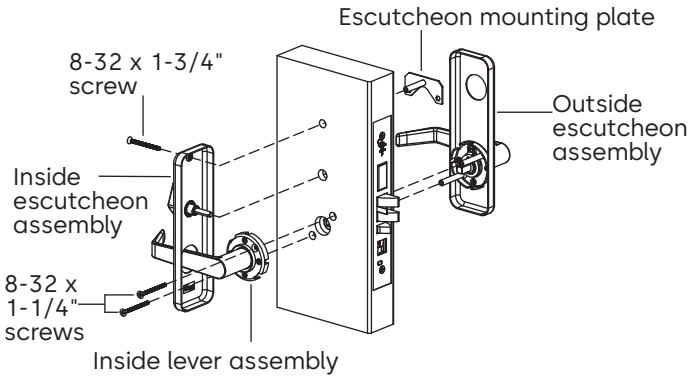
5.1.2 Place oustide escutcheon assembly flush against outside face of door covering escutcheon mounting plate and hold in place.

5.1.3 Place inside lever assembly against inside face of door and secure with two 8-32 x 1-1/4" screws.

5.1.4 Slide inside escutcheon assembly over end of lever and press firmly until snug and flush against door.

NOTE: Ensure spindle and thumb turn engage mortise chassis.

5.1.5 Secure inside escutcheon assembly to door with 8-32 x 1-3/4" screws.

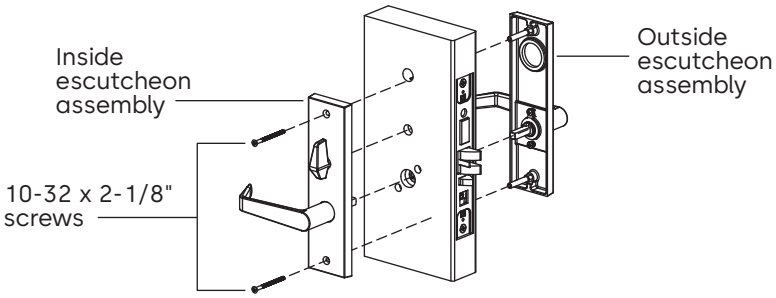


H escutcheon trim

5.1.1 Place outside escutcheon assembly flush against face of door and hold in place.

5.1.2 Place inside escutcheon assembly against inside face of door and secure with two 10-32 x 2-1/8" screws.

NOTE: Ensure that spindle and thumb turn engage mortise chassis.



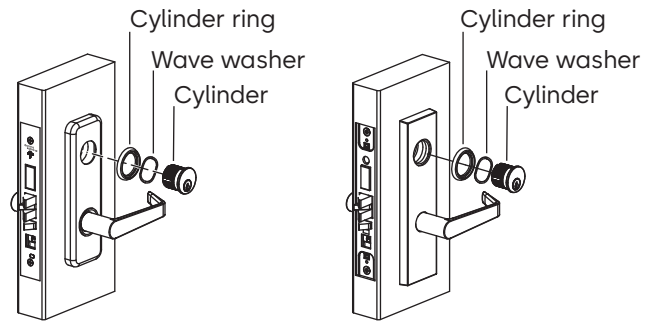
5.2 Install cylinder

Outside escutcheon trim

5.2.1 Thread cylinder into outside escutcheon oriented with plug at bottom center.

NOTE: Ensure cylinder face is flush with escutcheon.

5.2.2 Tighten cylinder in place with cylinder retainer screws.



Section trim

H escutcheon trim

Cylinder sectional

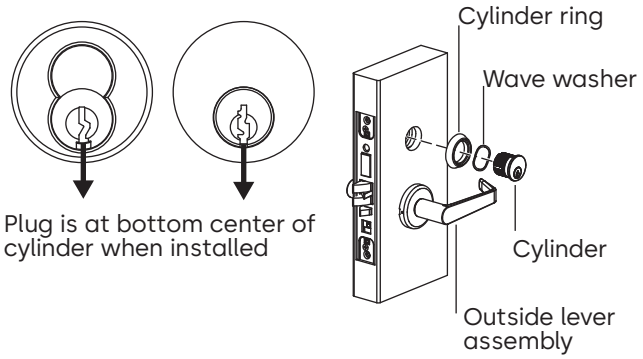
5.2.3 Slide wave washer and cylinder ring over cylinder.

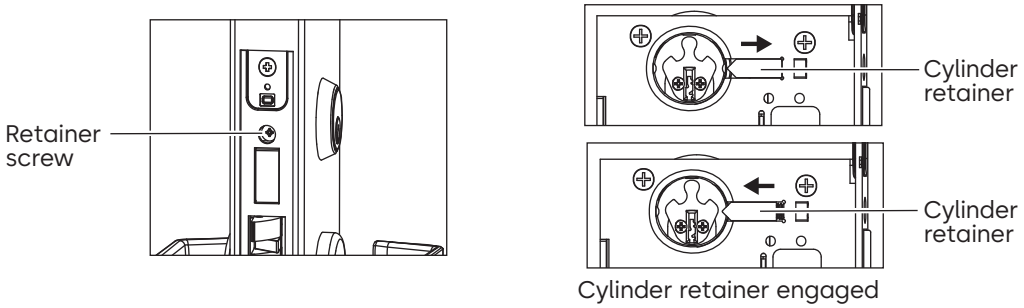
5.2.4 Thread cylinder into face of door, oriented with plug at bottom center.

NOTE: Ensure cylinder face is flush with cylinder ring.

5.2.5 Tighten cylinder in place with cylinder retainer screws.

NOTE: Retainer screw will press against edge of cylinder to hold it in place.

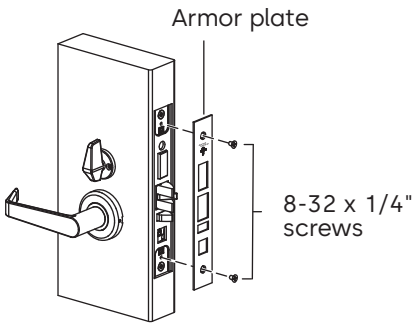




5.3 Install armor plate

NOTE: Test door function and proper installation prior to securing armor plate or closing door.

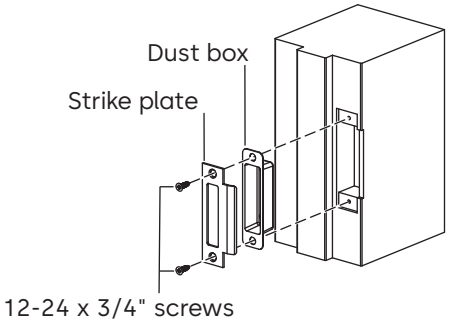
5.3.1 Secure armor plate with two 8-32 x 1/4" screws.



5.4 Install dust box and strike plate

5.4.1 Insert dust box then strike plate.

5.4.2 Secure each with two 12-24 x 3/4" combo-screws.



6 Finishing the installation

6.1 Install lock power supply

NOTE: For a lock with a 24 volt solenoid, use a regulated power supply rated for 24 volts DC at 450 milli-Amps.
NOTE: To power more than one lock with same power supply, add total volt-amps (power) for circuit and then multiply that number by 1.5. This is the minimum power rating in volt-amps recommended for power supply.

6.2 Make sensor connections

6.2.1 Connect field wiring for lock sensors to access control panel.
6.2.2 Refer to table below and manufacturer's instructions for access control panel.

Wire connection	Color	No. of wires	Type
24V power	Blue	2	Power
Latchbolt status sensor	Violet	2	NC***
RQE status sensor	Brown & orange	(2) Sets - 4 wires*	NO**

*Only 2 wires used at hinge (see page 6).
**Normally open
***Normally closed

6.3 Check operation

6.3.1 Supply power to lock and check its operation. For example, check that:

- door latches and opens properly
- deadbolt operates properly
- key access works
- door gap is 1/8"
- auxiliary bolt is held inside case when door is closed.

6.3.2 When installation of access control system has been completed, apply power to system and check that door's sensors operate properly.

For assistance, contact your local dormakaba representative.

Scan for product details and downloads.
Call 1-800-392-5209 or visit
https://dhwsupport.dormakaba.com/hc/en-us
for assistance or warranty information.

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