BEST

dormakaba Group

Wi-Q

wireless technology

WIRELESS INTELLIGENCE

ILLUSTRATED
PARTS
CATALOG

BEST Wi-Q™
Access Management System

Credits/copyright

Written and designed by dormakaba USA Inc. and Avalon Group, Inc., Indianapolis, Indiana.

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Getting Started

Introduction

The BEST Wi-Q™ Technology Illustrated Parts Catalog contains essential information to help you maintain your standard Wi-Q Locks as well as your EXQ Series Exit Hardware Trim. Throughout this manual, the term *standard Wi-Q Locks* is used to refer to 45HQ Series Mortise Locks and 9KQ Series Cylindrical Locks. EXQ Series Exit Hardware Trim is available for use with the following types of exit devices manufactured by BEST Precision Hardware (2000 Series), Von Duprin (98/99 Series), and Sargent (8800 Series):

- rim
- mortise
- surface vertical rod
- concealed vertical rod.

Standard Wi-Q Locks and EXQ Series Exit Hardware Trim are available with the following types of readers:

- magnetic stripe card readers
- dual validation (magnetic stripe card/keypad) readers
- proximity card readers (Standard, HID iCLASS, PKP).

This manual provides illustrations and part numbers for the following Wi-Q items:

- inside escutcheons
- outside escutcheons
- mortise cases and cylindrical chassis
- mortise, cylindrical, and EXQ trim components
- field service kits
- system components, such as card readers and encoders, gateways, and antennas.

Product overview

Mortise lock overview The diagram below shows an exploded view of the components of a Wi-Q Mortise Lock, indicating their orientation to the door.

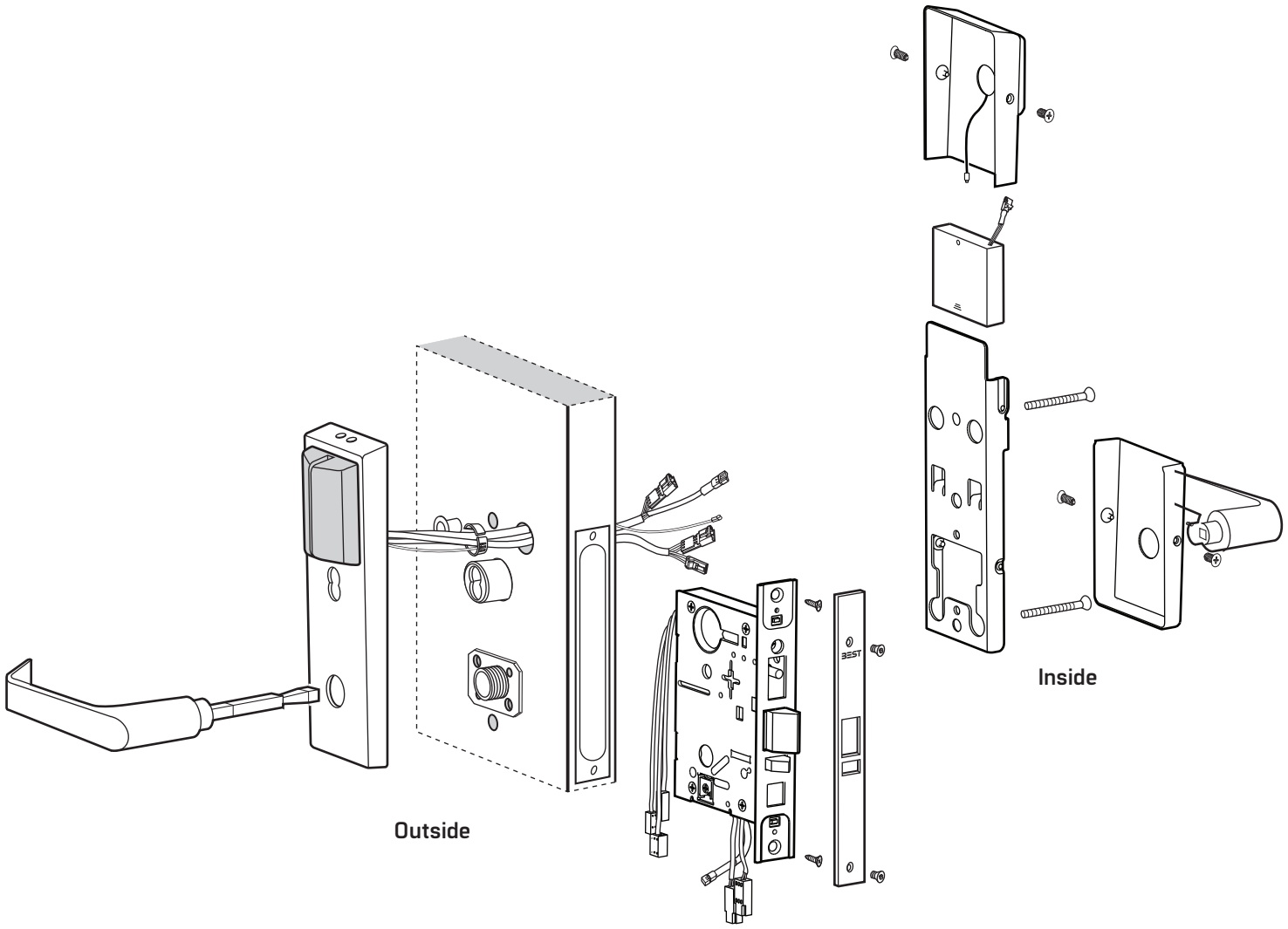


Figure 1.1 Mortise lock overview diagram

Cylindrical lock overview

The diagram below shows an exploded view of the components of a Wi-Q Cylindrical Lock, indicating their orientation to the door.

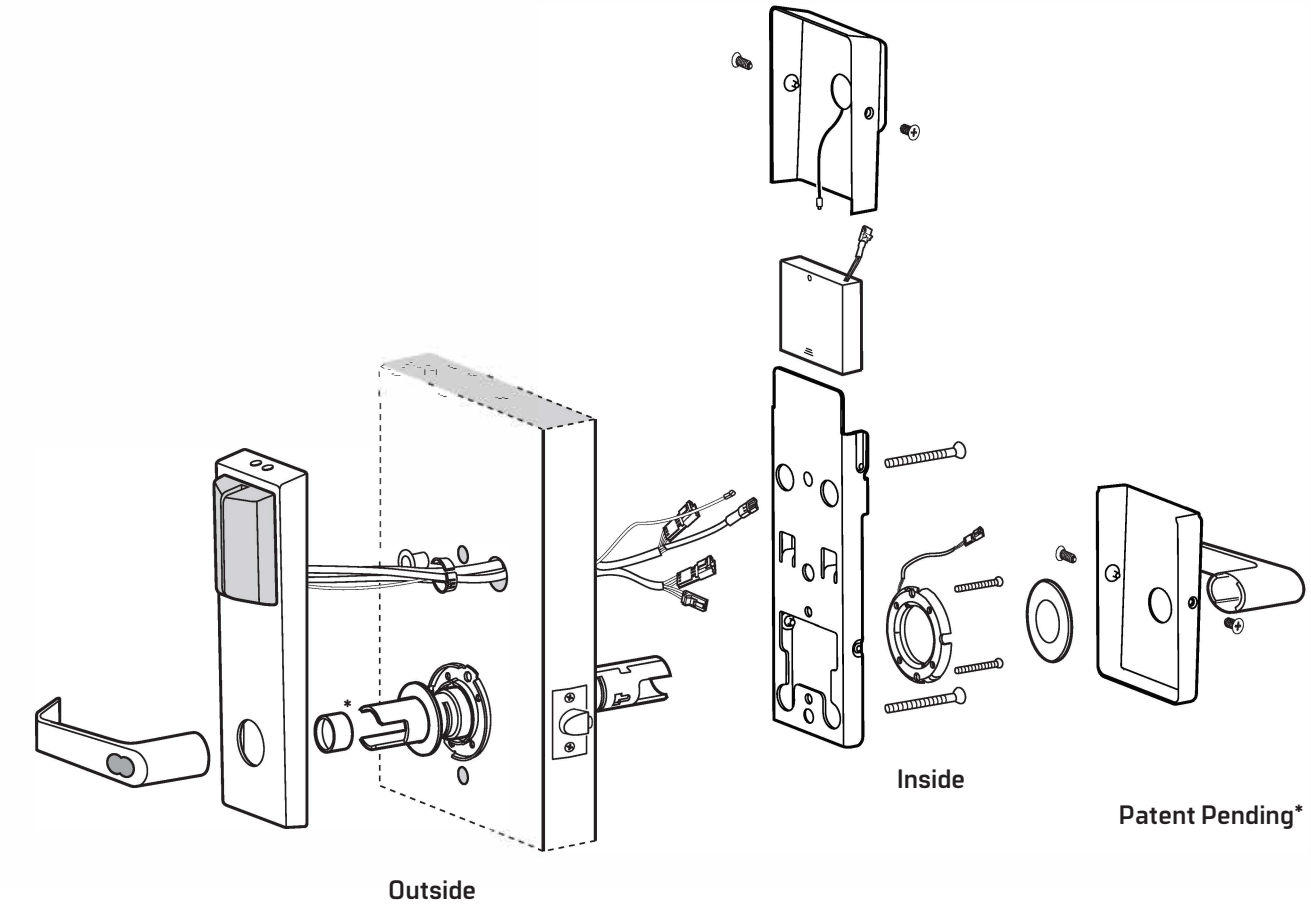


Figure 1.2 Cylindrical lock overview diagram

Exit Hardware Trim Overview

The diagram below shows an exploded view of the components of a Wi-Q Exit Hardware Trim application.

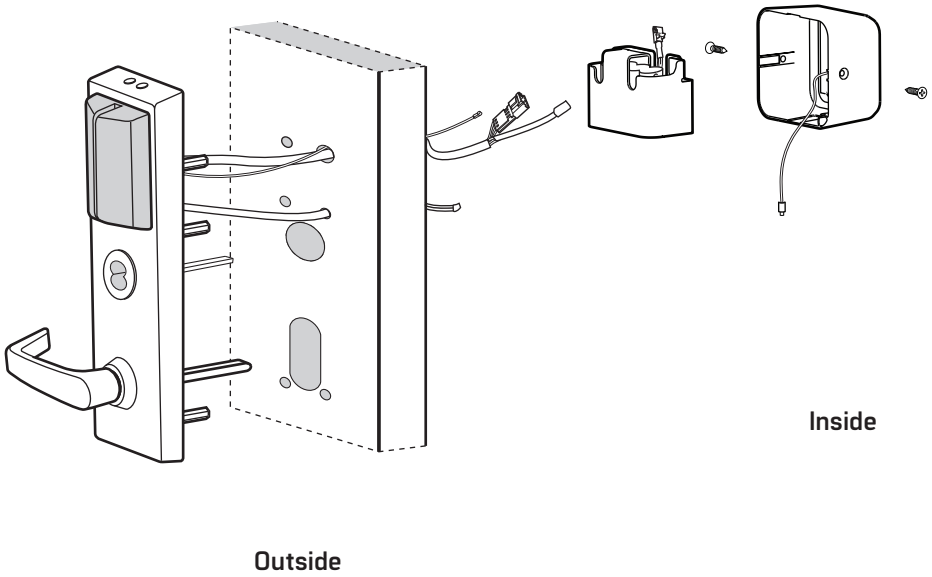


Figure 1.3 Exit hardware trim overview diagram (BEST Precision Hardware–rim type shown)

DOCUMENTATION PACKAGE

The following documentation is available to help you with the installation, start-up, and maintenance of your Electronic Stand-Alone Locks.

The installation instructions also can be ordered separately:

Document Title	Doc. No.
BEST Wi-Q™Mercury Setup and User Guide	T91416
Installation Instructions for 9KQ Wi-Q™ Cylindrical Locks†	T82619
Installation Instructions for 40HQ Wi-Q™ Mortise Locks[a]	T82623
Installation Instructions for EXQ Wi-Q™ Exit Hardware Trim[a]	T82621
Backside Antenna Kit Installation Instructions	T83302
BEST Wi-Q™ Gateway Installation Instructions	A89995
BEST Wi-Q™ Access Management System User Guide	T85202

†. These installation instructions are included in this manual.
See *Installation Instructions* on page B–1.

The templates and specifications required for lock and exit hardware trim installations also can be ordered separately:

Document Title	Doc. No.
Q01 Template; Installation Specifications for 9KQ Wi-Q™ Cylindrical Locks with Small Strike	T82601
Q02 Template; Installation Specifications for 9KQ Wi-Q™ Cylindrical Locks with Large Strike	T82602
Q05 Template; Installation Template for 9KQ Wi-Q™ Cylindrical Locks	T82605
Q03 Template; Installation Specifications for 45HQ Wi-Q™ Mortise Locks	T82603
Q06 Template; Installation Template for 40HQ Wi-Q™ Mortise Locks	T82606
Q09 Template; Installation Specifications for Wi-Q™ Technology EXQ Exit Hardware Trim for Use with Von Duprin 98/99 Series Exit Devices	T82609
Q10 Template; Installation Specifications for Wi-Q™ Technology EXQ Exit Hardware Trim for Use with BEST Precision Hardware 2000 Series Exit Devices	T82610
Q07 Template; Installation Template for Wi-Q Technology™ EXQ Exit Hardware Trim for Use with Von Duprin 98/99 Series Exit Devices	T82607
Q08 Template; Installation Template for Wi-Q Technology™ EXQ Exit Hardware Trim for Use with BEST Precision Hardware 2000 Series Exit Devices	T82608

TECHNICAL SUPPORT

Support services

When you need a part number for a component in a Wi-Q Lock or EXQ Series Exit Hardware Trim application, your first resource for help is the *BEST Wi-Q Illustrated Parts Catalog* . If you cannot find the part number you need, contact your local dormakaba representative.

Telephone technical support

dormakaba technical support provides telephone technical support for all Wi-Q products. You may contact support by calling (800) 392-5209 Monday through Friday, between 8:00 a.m. and 5:00 p.m. eastern standard time, or visit the web page https://dhwsupport.dormakaba.com/hc/en-us

Before you call, however, please make sure that the product is in the immediate vicinity, and that you are prepared to give the following information:

- what happened and what you were doing when the problem arose
- what you have done so far to correct the problem

2

Standard Escutcheon Components

This chapter provides exploded diagrams of the escutcheon assemblies and related components for standard Wi-Q Mortise and Cylindrical Locks. This chapter also includes part numbers for all field-serviceable parts. For part numbers for complete escutcheon assemblies, see *Outside escutcheon assemblies* on page 6–7.

INSIDE ESCUTCHEON

Inside escutcheon exploded view

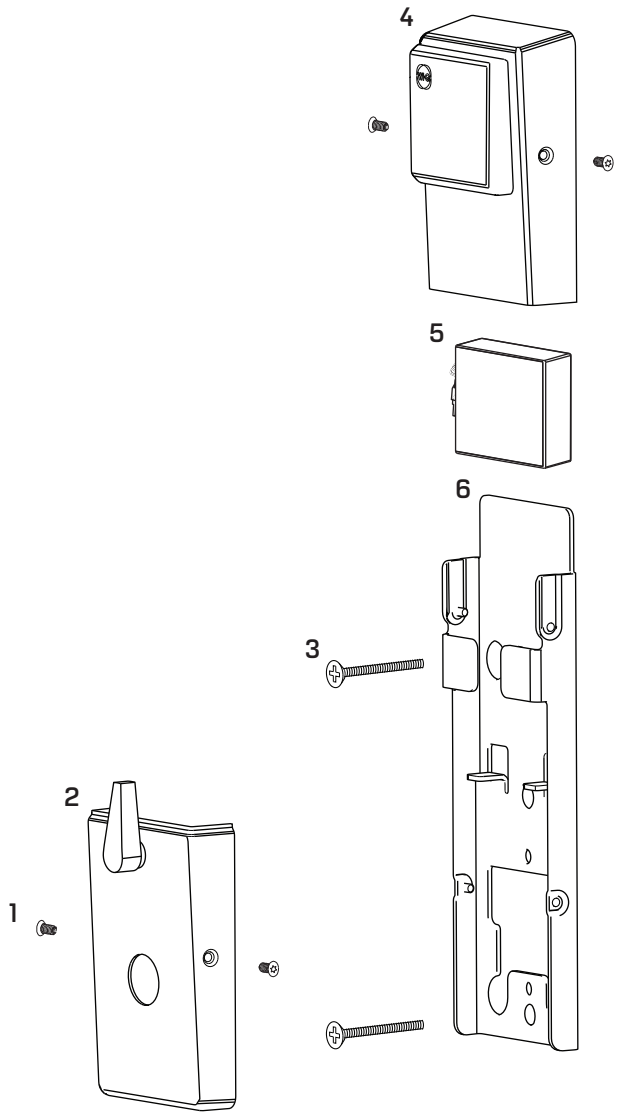


Figure 2.1 Inside escutcheon components (mortise TV function shown)

Inside escutcheon parts list

Refer to Figure 2.1 and the table below to find the part you need.

Item	Qty.	Part No.	Description
1	4	A83525[a]	T15 TORX inside escutcheon cover mounting screw *or*
not shown	4	00945-91[a]	Phillips head inside escutcheon cover mounting screw
2	1	B88798[a]	Mortise inside escutcheon stamped bottom cover with thumbturn (TV function) *or*
not shown	1	B83541[a]	Mortise inside escutcheon stamped bottom cover with thumbturn (TV function) 2 to 2-1/2" Thick door *or*
not shown	1	B88799[a]	Mortise inside escutcheon stamped bottom cover with thumbturn (TV function) 2-3/4 to 3-1/4" Thick door *or*
not shown	1	B83542[a]	Mortise inside escutcheon stamped bottom cover with thumbturn (TV function) 3-1/2 to 4" Thick *door or*
not shown	1	C83503[a]	Mortise inside escutcheon stamped bottom cover (DV function) *or*
not shown	1	C83501[a]	Cylindrical inside escutcheon stamped bottom cover
3	2	A83513	Escutcheon mounting screw for standard doors (1 3/4″ to 2 1/4″ thick) *or*
not shown	2	A83514	Escutcheon mounting screw for thick doors (2 1/2″ to 3″ thick)
4	1	B83540[a]	Cover assembly with wireless antenna
not shown	1	A83516	Top cover gasket
5	1	C83511	4-cell battery holder with 4 AA batteries (see also *Battery packs* on page 7–9)
6	1	C83508	Fire plate

a. Specify finish.

MAGNETIC STRIPE READER OUTSIDE ESCUTCHEON

(MS) Magnetic stripe reader escutcheon exploded view

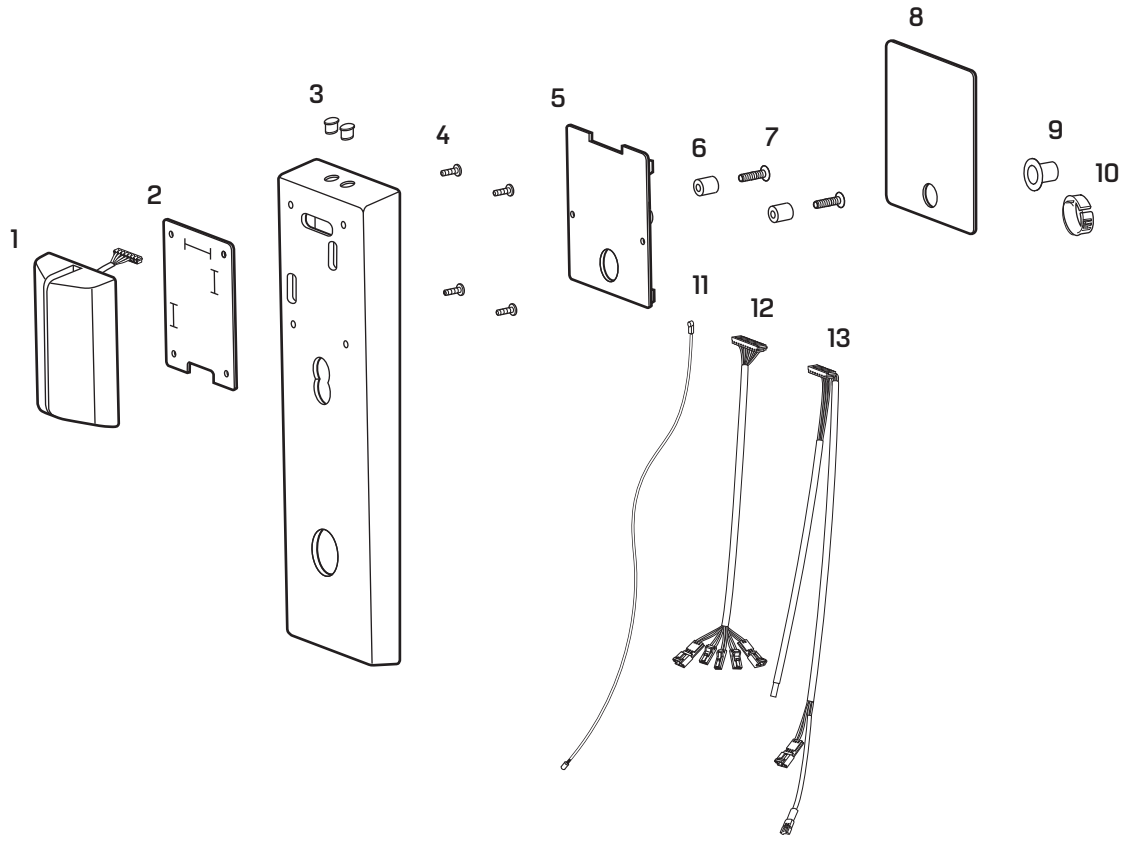


Figure 2.2 Magnetic stripe reader escutcheon components (mortise TV function shown)

Magnetic stripe reader escutcheon parts list

Refer to Figure 2.2 and the table below to find the part you need.

Item	Qty.	Part No.	Description
1	1	B63269	Magnetic stripe reader (see also *Reader kits* on page 6–2)
2	1	B60321	Reader gasket
3	2	A60317	Lens cover
not shown	2	A60318	Lens retaining ring
4	4	A60348	Reader assembly mounting screw
5	1	B82077	Universal wireless door controller (see also *Control electronics kits* on page 6–3)
6	2	A82250	Electronics mounting screw spacer
7	2	A82251	Electronics board mounting screw
8	1	A60800	Outside escutcheon gasket
9	1	B61439	Trim hole insert
10	1	A61433	Bushing
11	1	B82375	Antenna jumper cable (see also *Wire harness kits for standard Wi-Q Locks* on page 6–3)
12	1	B82098	Sensor harness (see also *Wire harness kits for standard Wi-Q Locks* on page 6–3)
13	1	C82092	Mortise primary harness (see also *Wire harness kits for standard Wi-Q Locks* on page 6–3) *or*
not shown	1	C82168	Cylindrical primary harness (see also *Wire harness kits for standard Wi-Q Locks* on page 6–3)

PROXIMITY READER OUTSIDE ESCUTCHEON

(PH) Proximity reader escutcheon exploded view

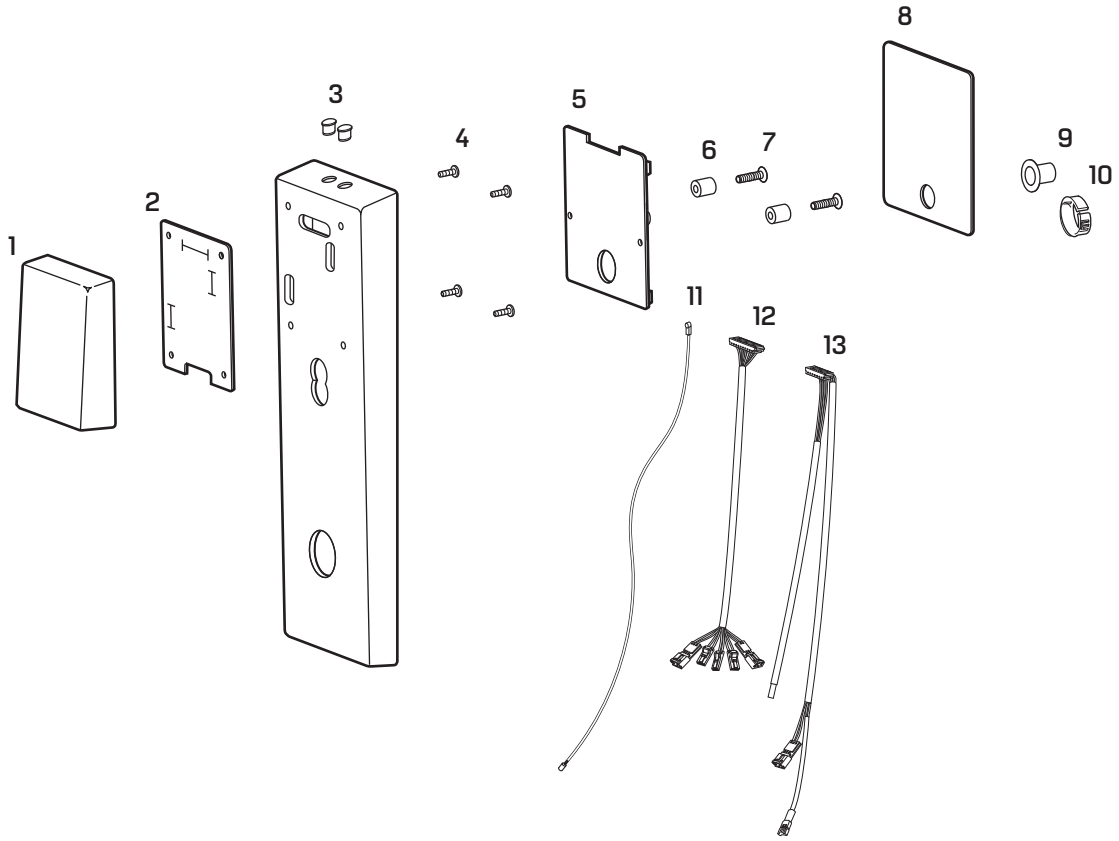


Figure 2.3 Proximity reader escutcheon components (mortise TV function shown)

Proximity reader escutcheon parts list

Refer to Figure 2.3 and the table below to find the part you need.

Item	Qty.	Part No.	Description
1	1	B87009	Proximity reader (see also *Reader kits* on page 6–2)
2	1	B60321	Reader gasket
3	2	A60317	Lens cover
not shown	2	A60318	Lens retaining ring
4	4	A60348	Reader assembly mounting screw
5	1	B82077	Universal wireless door controller (see also *Control electronics kits* on page 6–3)
6	2	A82250	Electronics mounting screw spacer
7	2	A82251	Electronics board mounting screw
8	1	A60800	Outside escutcheon gasket
9	1	B61439	Trim hole insert
10	1	A61433	Bushing
11	1	B82375	Antenna jumper cable (see also *Wire harness kits for standard Wi-Q Locks* on page 6–3)
12	1	B82098	Sensor harness (see also *Wire harness kits for standard Wi-Q Locks* on page 6–3)
13	1	C82092	Mortise primary harness (see also *Wire harness kits for standard Wi-Q Locks* on page 6–3) *or*
not shown	1	C82168	Cylindrical primary harness (see also *Wire harness kits for standard Wi-Q Locks* on page 6–3)

PKP READER OUTSIDE ESCUTCHEON (PKP)

PKP reader escutcheon exploded view

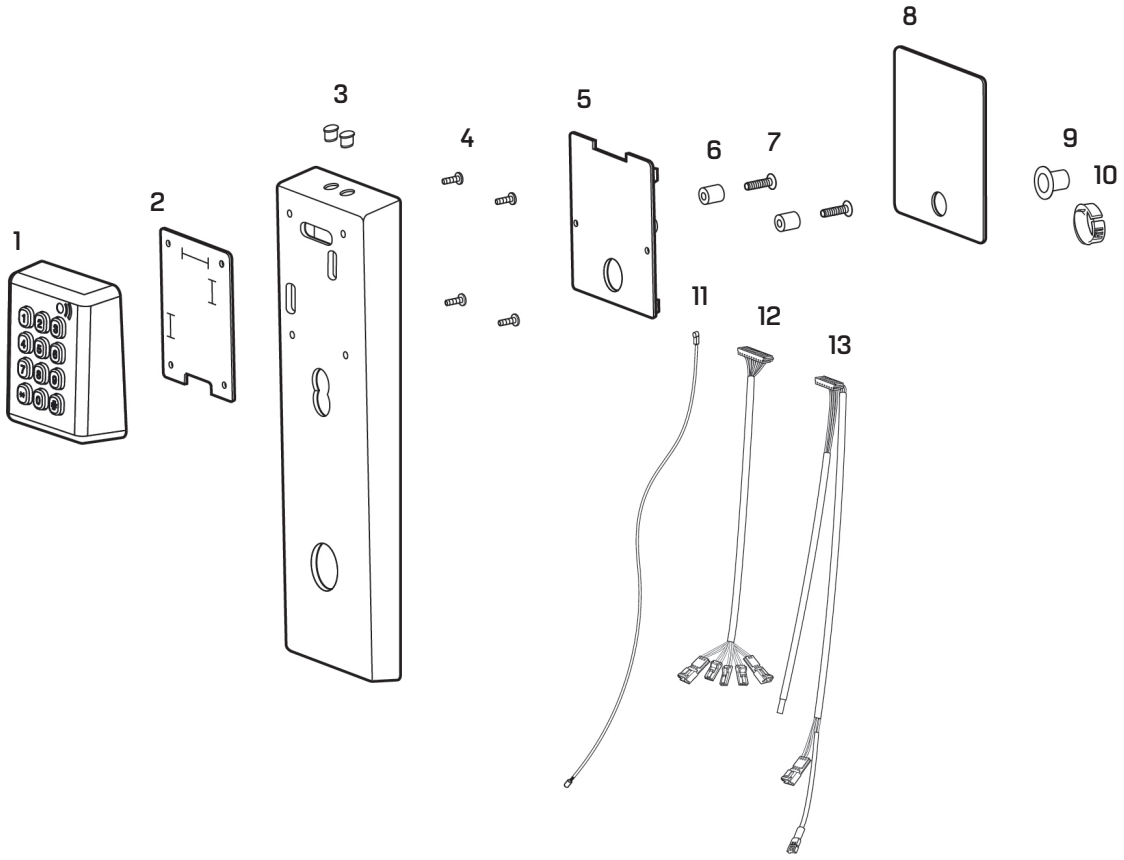


Figure 2.4 PKP reader escutcheon components (mortise TV function shown)

PKP escutcheon parts list

Refer to Figure 2.4 and the table below to find the part you need.

Item	Qty.	Part No.	Description
1	1	B83474	PKP reader
2	1	B60321	Reader gasket
3	2	A60317	Lens cover
not shown	2	A60318	Lens retaining ring
4	4	A60348	Reader assembly mounting screw
5	1	B82077	Universal wireless door controller (see also *Control electronics kits* on page 6–3)
6	2	A82250	Electronics mounting screw spacer
7	2	A82251	Electronics board mounting screw
8	1	A60800	Outside escutcheon gasket
9	1	B61439	Trim hole insert
10	1	A61433	Bushing
11	1	B82375	Antenna jumper cable (see also *Wire harness kits for standard Wi-Q Locks* on page 6–3)
12	1	B82098	Sensor harness (see also *Wire harness kits for standard Wi-Q Locks* on page 6–3)
13	1	C82092	Mortise primary harness (see also *Wire harness kits for standard Wi-Q Locks* on page 6–3) *or*
not shown	1	C82168	Cylindrical primary harness (see also *Wire harness kits for standard Wi-Q Locks* on page 6–3)

SE READER OUTSIDE ESCUTCHEON

(SE) SE reader escutcheon exploded view

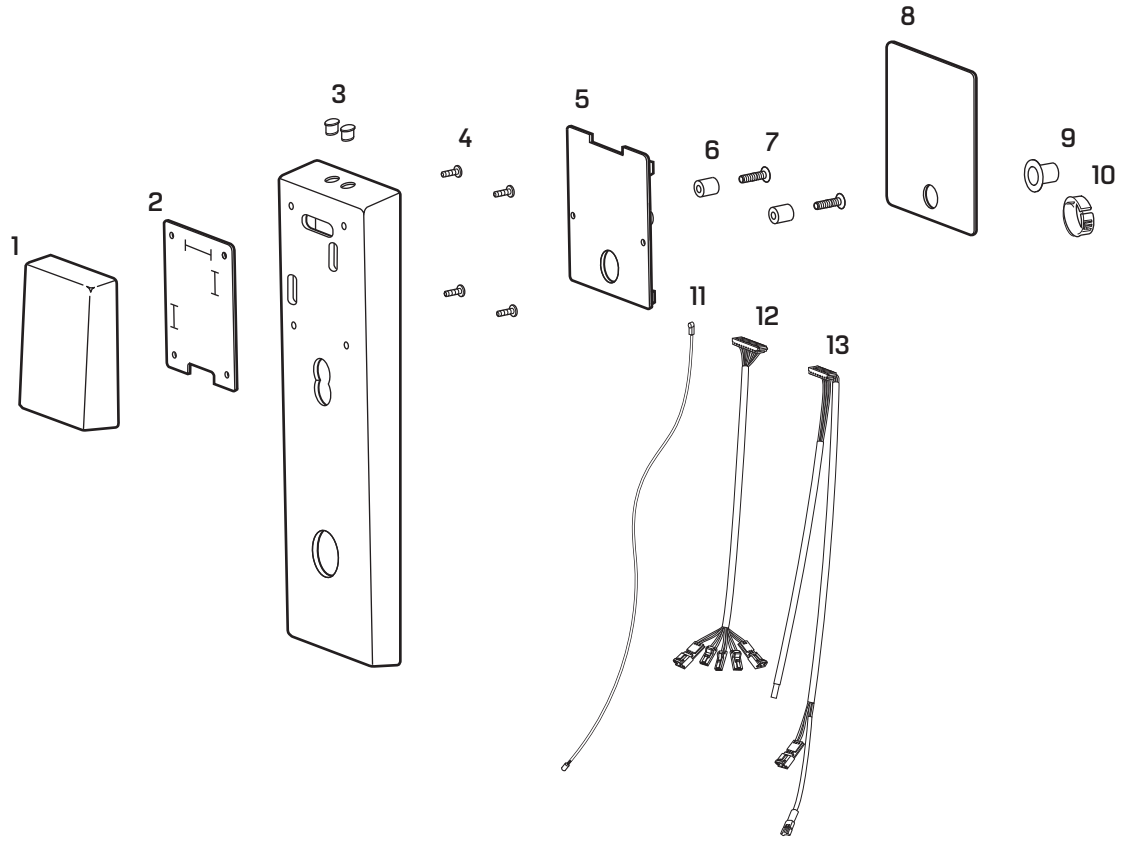


Figure 2.5 SE reader escutcheon components (mortise TV function shown)

SE reader escutcheon parts list

Refer to Figure 2.5 and the table below to find the part you need.

Item	Qty.	Part No.	Description
not shown	1	B82999	HID iCLASS reader see also *Reader kits* on page 6–2)
2	1	B60321	Reader gasket
3	2	A60317	Lens cover
not shown	2	A60318	Lens retaining ring
4	4	A60348	Reader assembly mounting screw
5	1	B82077	Universal wireless door controller (see also *Control electronics kits* on page 6–3)
6	2	A82250	Electronics mounting screw spacer
7	2	A82251	Electronics board mounting screw
8	1	A60800	Outside escutcheon gasket
9	1	B61439	Trim hole insert
10	1	A61433	Bushing
11	1	B82375	Antenna jumper cable (see also *Wire harness kits for standard Wi-Q Locks* on page 6–3)
12	1	B82098	Sensor harness (see also *Wire harness kits for standard Wi-Q Locks* on page 6–3)
13	1	C82092	Mortise primary harness (see also *Wire harness kits for standard Wi-Q Locks* on page 6–3) *or*
not shown	1	C82168	Cylindrical primary harness (see also *Wire harness kits for standard Wi-Q Locks* on page 6–3)

DUAL VALIDATION READER OUTSIDE ESCUTCHEON

(DV) Dual validation reader escutcheon exploded view

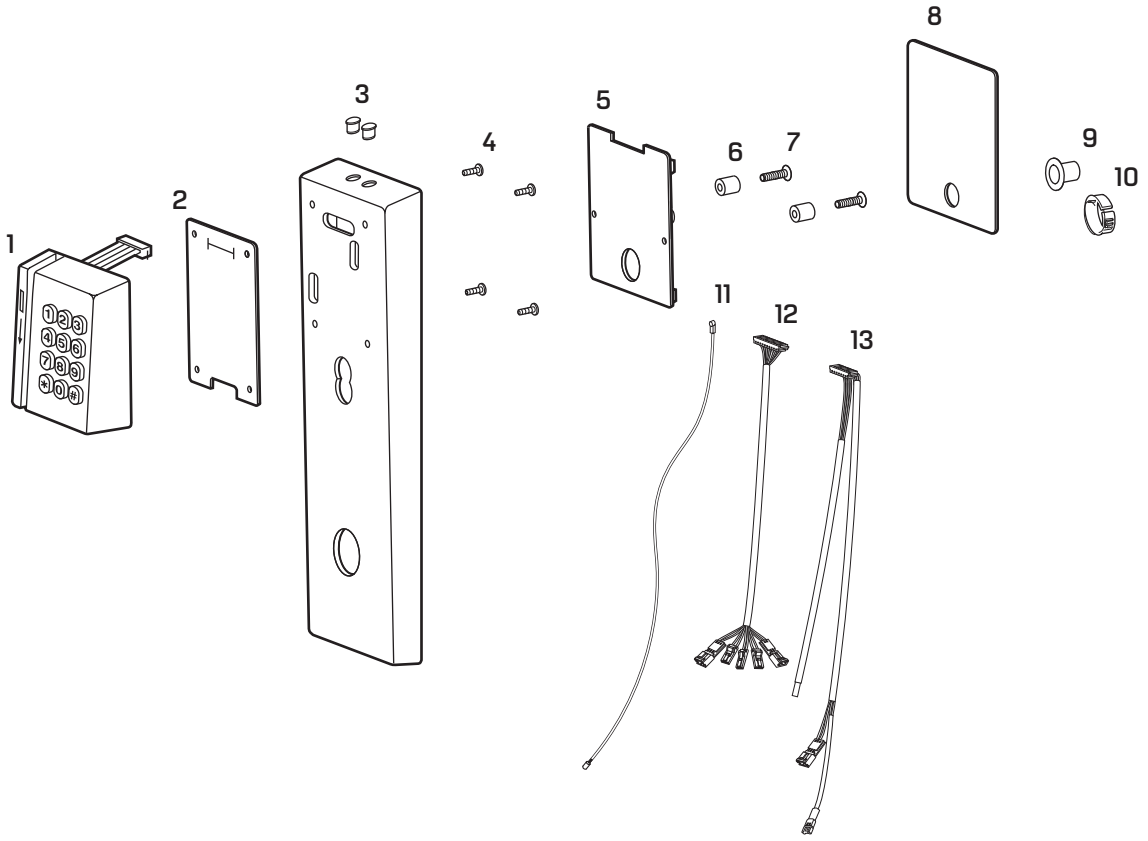


Figure 2.6 Dual validation reader escutcheon components (mortise TV function shown)

Dual validation reader escutcheon parts list

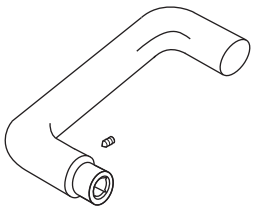
Refer to Figure 2.6 and the table below to find the part you need.

Item	Qty.	Part No.	Description
1	1	B63281	Dual validation reader (see also *Reader kits* on page 6–2)
2	1	B63259	Reader gasket
3	2	A60317	Lens cover
not shown	2	A60318	Lens retaining ring
4	4	A60348	Reader assembly mounting screw
5	1	B82077	Universal wireless door controller (see also *Control electronics kits* on page 6–3)
6	2	A82250	Electronics mounting screw spacer
7	2	A82251	Electronics board mounting screw
8	1	A60800	Outside escutcheon gasket
9	1	B61439	Trim hole insert
10	1	A61433	Bushing
11	1	B82375	Antenna jumper cable (see also *Wire harness kits for standard Wi-Q Locks* on page 6–3)
12	1	B82098	Sensor harness (see also *Wire harness kits for standard Wi-Q Locks* on page 6–3)
13	1	C82092	Mortise primary harness (see also *Wire harness kits for standard Wi-Q Locks* on page 6–3) *or*
not shown	1	C82168	Cylindrical primary harness (see also *Wire harness kits for standard Wi-Q Locks* on page 6–3)

3 Mortise Components

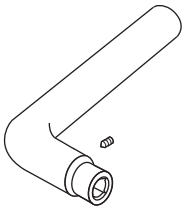
This chapter provides diagrams and part numbers for the inside trim, outside trim, and lock cases for standard Wi-Q Mortise Locks. It also describes the case faceplates, strike boxes, strike plates, and cylinders for Wi-Q Mortise Locks.

INSIDE TRIM COMPONENTS

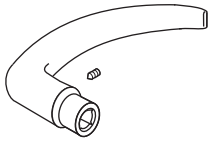


#3 inside lever assembly

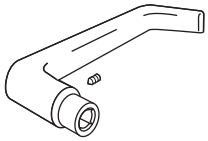
#4 inside knob assembly



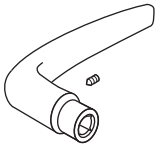
#12 inside lever assembly



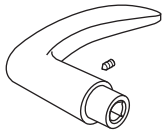
#14 inside lever assembly



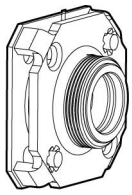
#15 inside lever assembly



#16 inside lever assembly



#17 inside lever assembly



Inside trim cassette

Figure 3.1 Inside mortise trim

Inside trim parts list

Refer to Figure 3.1 and the table below to find the part you need.

Item	Part No.
#3 inside lever assembly (solid tube / return)	B45110[a]
#4 inside knob assembly (round knob)	B45170[a]
#12 inside lever assembly (solid tube / no return)	C45408[a]
#14 inside lever assembly (curved return)	B45130[a]
#15 inside lever assembly (contour angle return)	B45150[a]
#16 inside lever assembly (contour angle / no return)	B45172[a]
#17 right hand inside lever assembly (gull wing / no return)	C45406[a]
#17 left hand inside lever assembly (gull wing / no return)	C45405[a]
Inside trim cassette	B45071
Trim cassette screw	A18722

a. Specify finish.

OUTSIDE TRIM COMPONENTS

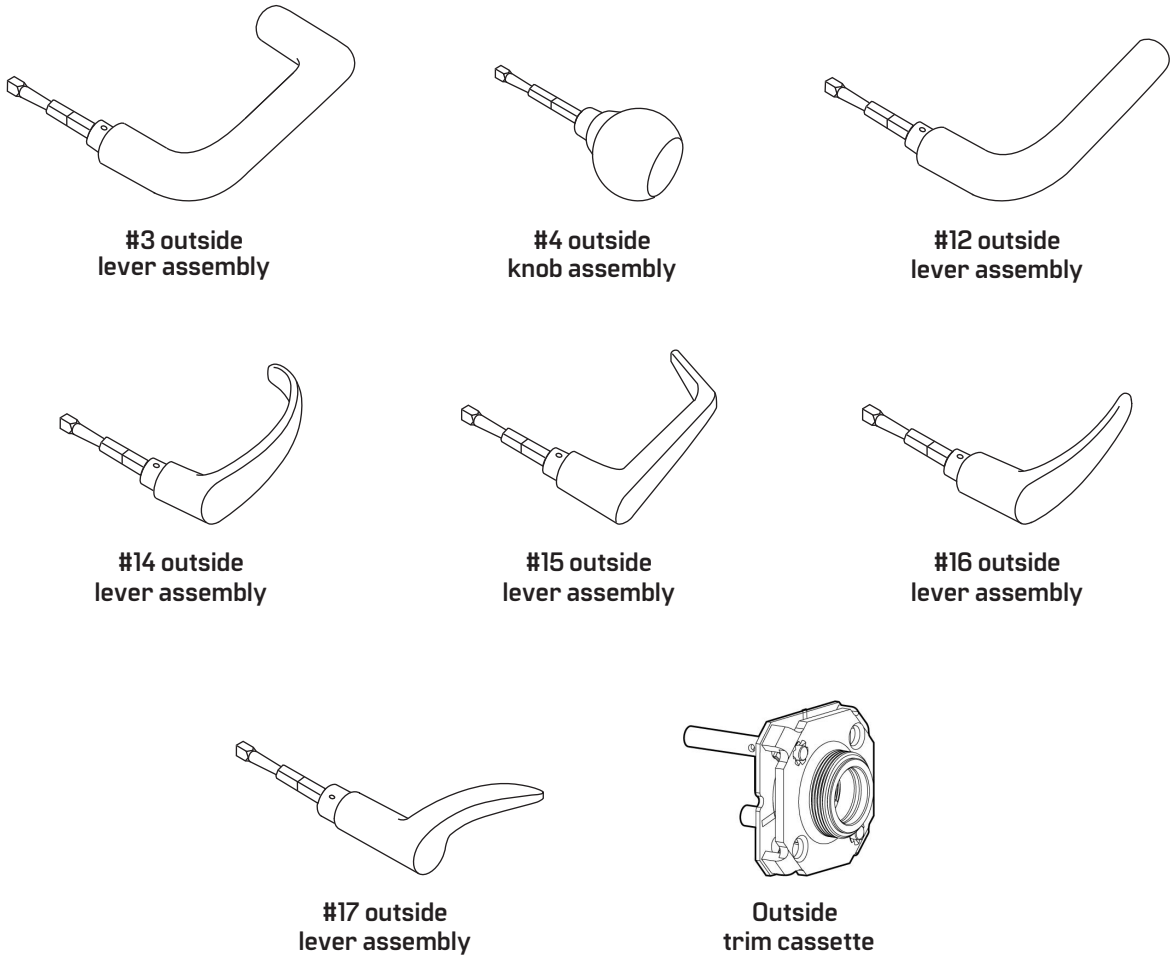


Figure 3.2 Outside mortise trim

Outside trim parts list

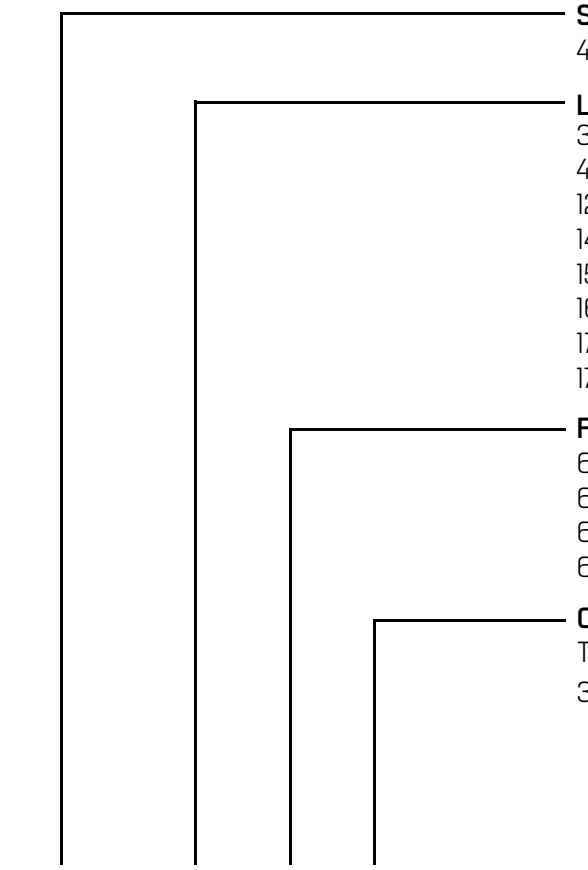
Refer to Figure 3.2 and the table below to find the part you need. To order replacement spindles or thick door parts, see the *40H Series Service Manual*.

Item	Part No.
#3 outside lever and spindle assembly (solid tube / return)	B45120[a]
#4 outside knob and spindle assembly (round knob)	B45180[a]
#12 outside lever and spindle assembly (solid tube / no return)	C45423[a]
#14 outside lever and spindle assembly (curved return)	B45140[a]
#15 outside lever and spindle assembly (contour angle return)	B45160[a]
#16 outside lever and spindle assembly (contour angle / no return)	B45182[a]
#17 right hand outside lever and spindle assembly (gull wing / no return)	C45421[a]
#17 left hand outside lever and spindle assembly (gull wing / no return)	C45420[a]
Outside trim cassette	B45081

a. Specify finish.

LEVER SETS

How to order To order lever sets, use the nomenclature shown in the example below.



Series:
40HLS – Lever set

Lever style:[1]
3 – Solid tube / return lever
4 – Round knob
12 – Solid tube / no return lever
14 – Curved return lever
15 – Contour / angle return lever
16 – Curved / no return lever
17LH – Gullwing / no return lever
17RH – Gullwing / no return lever

Finish:

605	606	611
612	613	618
619	625	626
629	630	690

Options:
Thick door – Specify thickness if other than 1 3/4″[2] TL – Tactile lever[3]

1. For decorative levers see the 40H catalog and the decorative le brochure.
2. For door thickness information, see the table below.
3. The method for achieving a tactile lever can vary depending on lever style and finish.

The table below lists available door thicknesses. If a door's thickness falls between two thicknesses listed below, round up. For doors where the mortise case is not centered in the door, contact your local dormakaba Representative.

Available door thicknesses
2″
2 1/4″
2 1/2″
2 3/4″
3″

MORTISE CASES BY FUNCTION AND OPTION

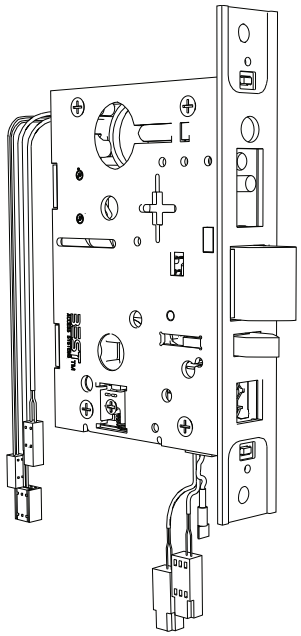


Figure 3.3 Mortise case assembly (DV shown)

Mortise case assemblies

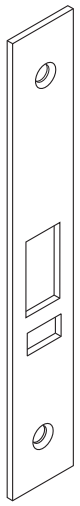
Refer to the tables below to find the case assembly you need.

Sensor Option	Part Number DV Function[a]	Part Number TV Function[a]
Key override switch, request-to-exit switch, door position switch, & deadbolt monitor switch	–	C45751[b]
Key override switch, request-to-exit switch, door position switch, & latch bolt monitor switch	C45749	–
Key override switch only	C45742	C45668

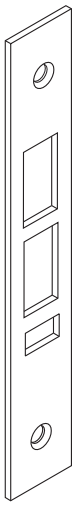
a. All mortise case assemblies include two A18724 case mounting screws (#12–12 × 3/4″ Phillips flat head).

b. Uses an external door position switch and magnet assembly. See *Other components list* on page 3–8.

MORTISE CASE FACEPLATES



DV function mortise faceplate



TV function mortise faceplate

Figure 3.4 Mortise case faceplates

Mortise case faceplates parts list

Refer to Figure 3.4 and the table below to find the part you need.

Item	Part No.
40H faceplate assembly (DV function)[a]	40HFP3[b]
40H faceplate assembly (TV function)[a]	40HFP1[b]
Faceplate screw (#8–32 × 1/4″ Phillips flat head)	A18722[b]

a. The assembly includes one faceplate and two faceplate screws.
b. Specify finish.

STRIKE BOXES AND STRIKE PLATES

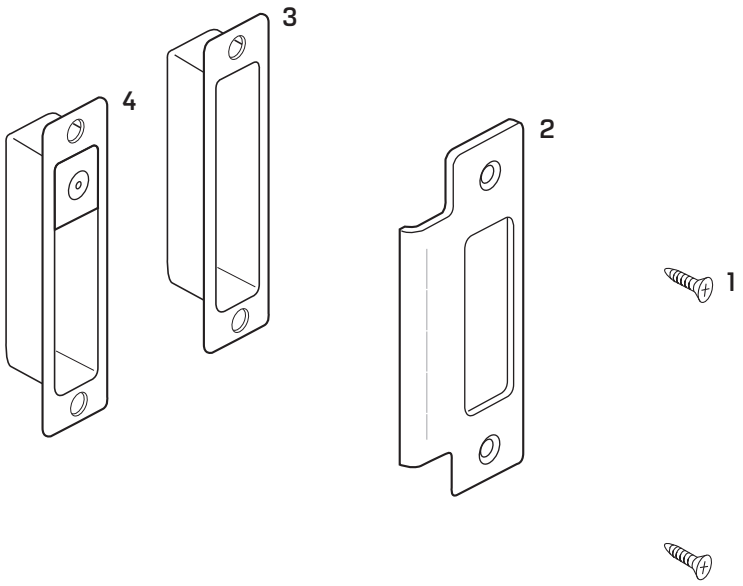


Figure 3.5 Mortise strike boxes and strike plates

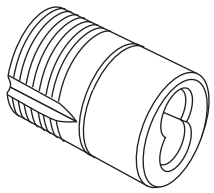
Strike boxes and strike plates parts list

Refer to Figure 3.5 and the table below to find the part you need.

Item	Qty.	Part No.	Description
1	2	A18724[a]	Strike screw (#12–12 × 3/4″ Phillips flat head)
2	1	C44004[a]	40H universal strike plate[b]
3	1	B34380	Plastic strike box
4	1	B61224	Magnetic strike box for DV function door status monitor

a. Specify finish.
b. The 40H S1 strike package includes one strike plate, one plastic strike box, and two strike screws.

CYLINDER COMPONENTS



Concealed cylinder for 1 3/4"– 2" thick doors

Figure 3.6 Mortise cylinder

Cylinder parts list Refer to Figure 3.6 and the table below to find the part you need.

Item	Part No.
Concealed cylinder for 1 3/4"– 2" thick doors[a]	B61231
Concealed cylinder for 2 1/4"– 2 1/2" thick doors[a]	B61232
Concealed cylinder for 2 3/4"– 3" thick doors[a]	B61233

a. The assembly includes one throw plug spacer, two throw pins, one throw plug, one IC cylinder, and one cloverleaf cam.

OTHER COMPONENTS

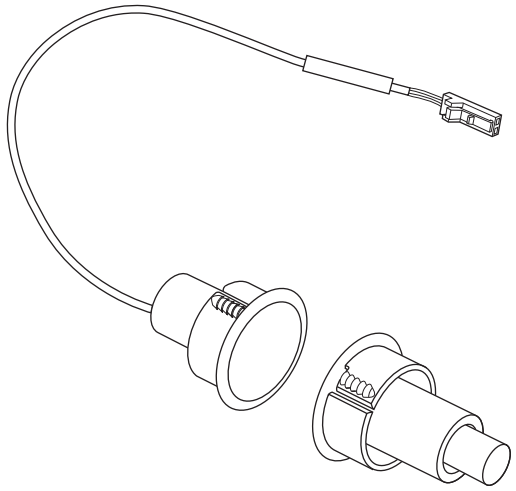


Figure 3.7 Door position switch and magnet assembly

Other components list Refer to Figure 3.7 and the table below to find the part you need.

Item	Part No.
Door position switch and magnet assembly (for TV function)	A60413

4

Cylindrical Components

This chapter provides diagrams and part numbers for levers, trim components, and lock chassis for standard Wi-Q Cylindrical Locks. It also describes the latches, strike boxes, strike plates, and door position switch for Wi-Q Cylindrical Locks.

LEVER COMPONENTS

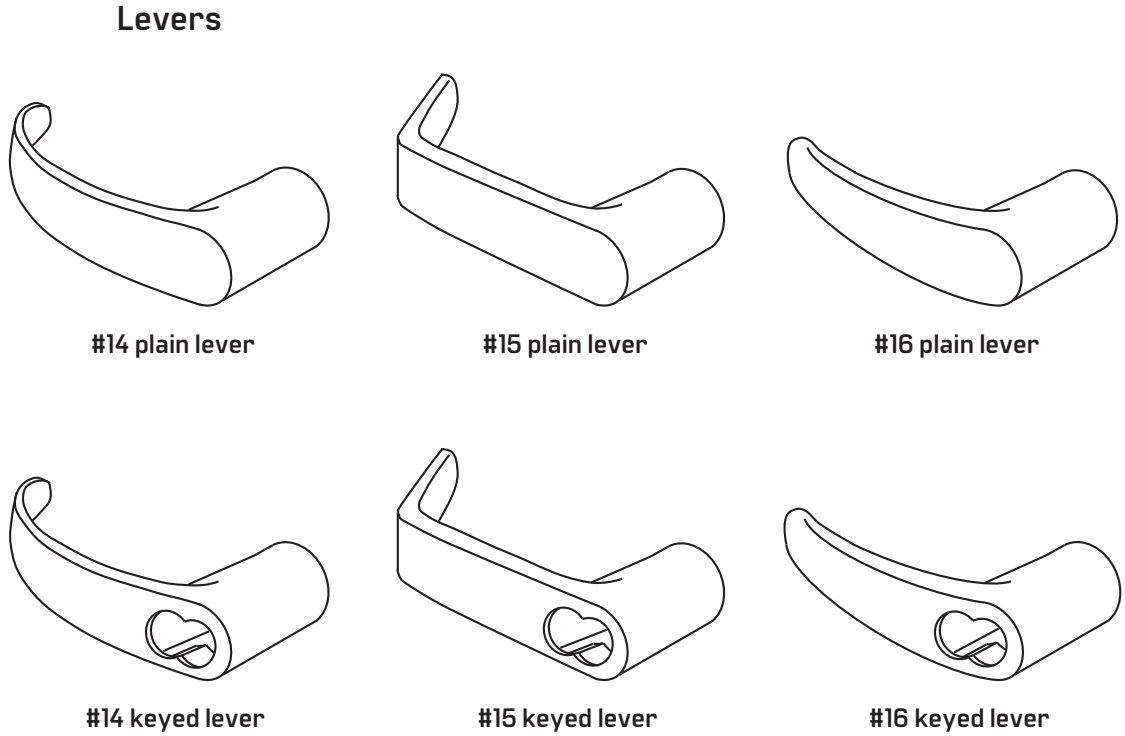


Figure 4.1 Cylindrical levers

Levers parts list

Refer to Figure 4.1 and the table below to find the part you need. Item

Part No.	
#14 plain lever	D55022[a]
#15 plain lever	D55169[a]
#16 plain lever	D55025[a]
#14 keyed lever	D55020[a]
#15 keyed lever	D55168[a]
#16 keyed lever	D55023[a]
#14 non IC Schlage / Corbin / Medeco	D80989[a]
#15 non IC Schlage / Corbin / Medeco	D55723[a]
#16 non IC Schlage / Corbin / Medeco	D80992[a]
#14 non IC Sargent / Yale	D80987[a]
#15 non IC Sargent / Yale	D55721[a]
#16 non IC Sargent / Yale	D80990[a]
#14 Schlage large format	D81211[a]
#15 Schlage large format	D81212[a]

a. Specify finish.

Standard lever components

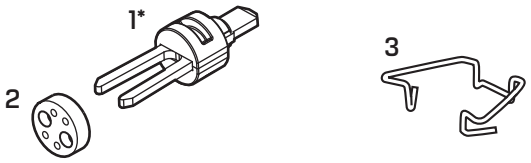


Figure 4.2 Standard lever components

Standard lever components parts list

Refer to Figure 4.2 and the table below to find the part you need.

Item	Qty.	Part No.	Description
1	1	B92503	9K throw member*
2	50	1882120	Six pin spacer
3	1	B54182	Lever keeper spring

Lever components for use with non-interchangeable cores

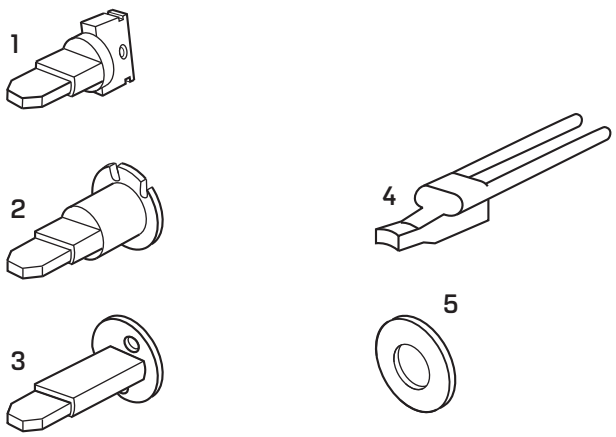


Figure 4.3 Lever components for use with non-interchangeable cores

Lever components for use with non-interchangeable cores parts list

Refer to Figure 4.3 and the table below to find the part you need.

Item	Qty.	Part No.	Description
1	1	B55709[a]	Throw member for use with Sargent and Yale cores
2	1	A55708[b]	Throw member for use with Schlage, Corbin, KA, KD, and OB cores
3	1	A55712[c]	Throw member for use with Medeco core
4	1	C55714	Lever handle insert for use with non-interchangeable cores
5	1	A55713	Throw member support ring for use with non-interchangeable cores

a. To order the kit that contains the throw member, insert, and support ring for use with Sargent cores, use number 71770600S. For Yale cores, use number 71770642S; this kit contains two throw members, two inserts, and two support rings.
b. To order the kit that contains the throw member, insert, and support ring for use with Schlage, Corbin, KA, KD, and OB cores, use number 71770527S.
c. To order the kit that contains the throw member, insert, and support ring for use with Medeco cores, use number 71778196S.

TRIM COMPONENTS

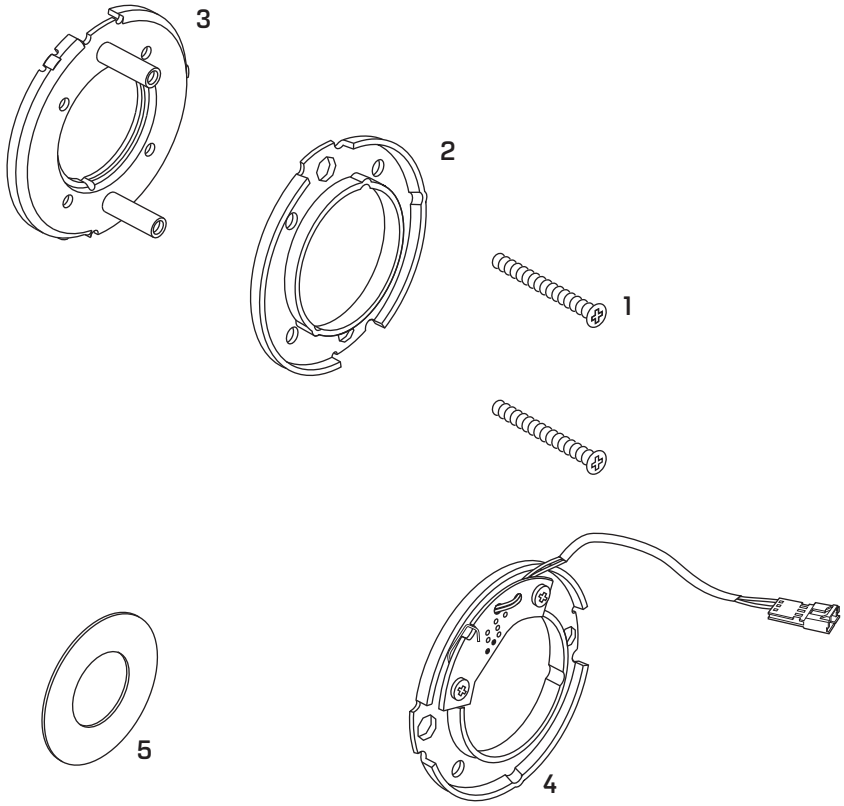


Figure 4.4 Cylindrical trim

Trim parts list Refer to Figure 4.4 and the table below to find the part you need.

Item	Qty.	Part No.	Description
1	2	A55557	Through-bolt screw
2	1	C55556	Inside rose liner
3	1	B55603	Outside rose liner
4	1	B61049	Inside rose liner with request to exit
5	2	A80775	Hub washer

CYLINDRICAL CHASSIS

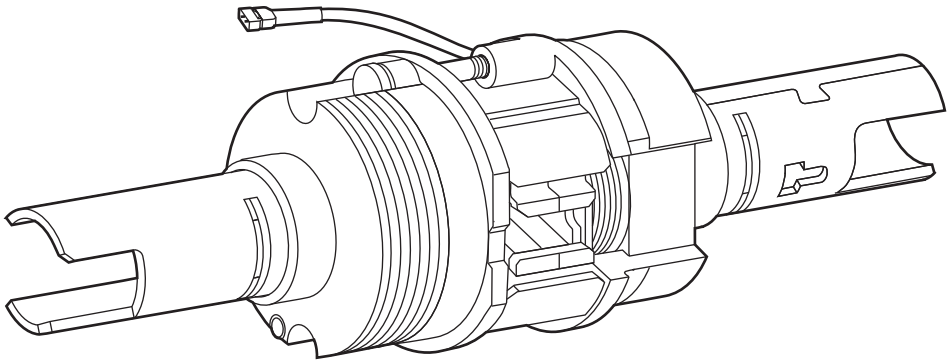


Figure 4.5 Cylindrical chassis

Cylindrical chassis list

Refer to the table below to find the chassis you need.

Chassis Type	Part Number	
	Standard	Lost Motion
9KQ chassis with request to exit	D82150	D82154
9KQ chassis without request to exit	D82157	D82153
9KQ non-IC chassis with request to exit 9KQ	D82151	D82156
non-IC chassis without request to exit	D82152	D82155

LATCHES

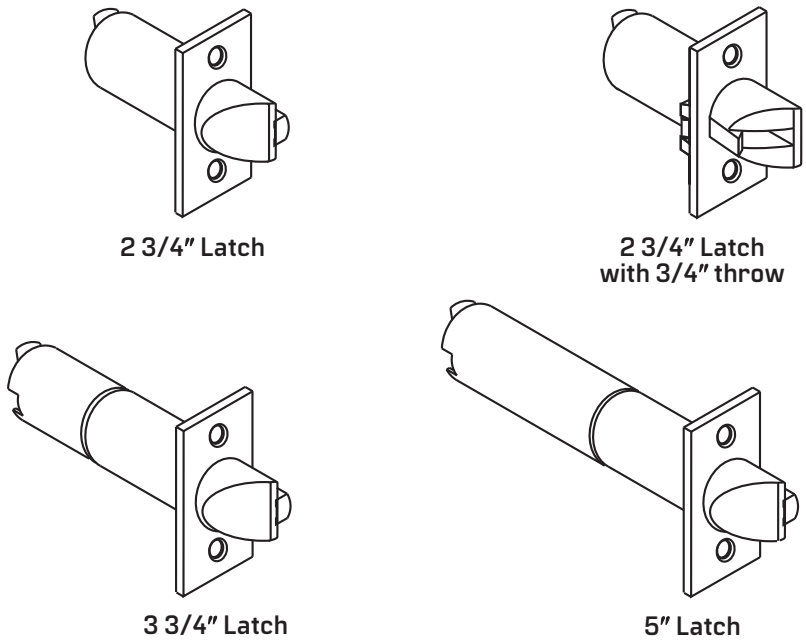


Figure 4.6 Cylindrical latches

Latches list Refer to Figure 4.6 and the table below to find the part you need.

Item	Part No.
Latch for 2 3/4″ backset	8KL3[a]
Latch for 2 3/4″ backset with 3/4″ throw	A54661[a]
Latch for 3 3/4″ backset	8KL4[a]
Latch for 5″ backset	8KL5[a]
Latch screw	A25359[a]

a. Specify finish.

STRIKE BOXES AND STRIKE PLATES

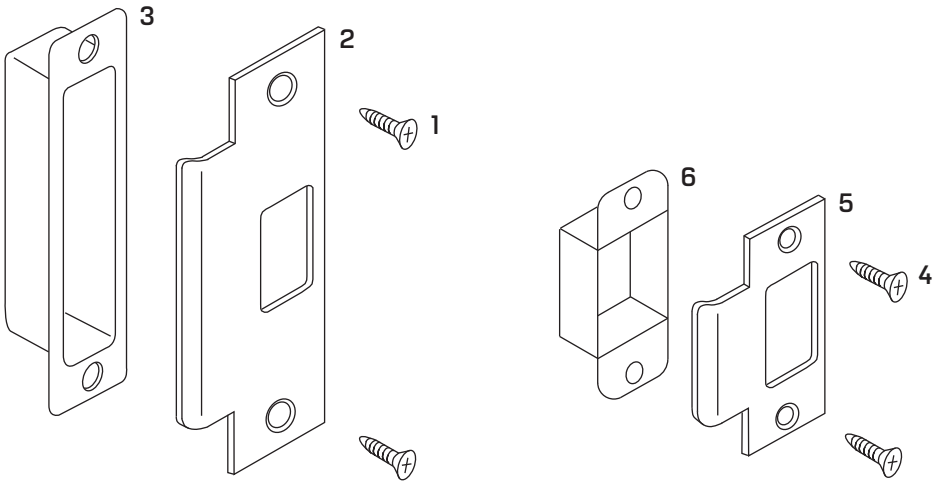


Figure 4.7 Cylindrical strike boxes and strike plates

Strike boxes and strike plates parts list

Refer to Figure 4.7 and the table below to find the part you need.

Item	Qty.	Part No.	Description
1	2	A18724[a]	Screw for ANSI strike
2	1	B25641[a]	ANSI strike
3	1	B34380	ANSI plastic strike box
4	2	A25359[a]	Screw for standard strike
5	1	B25639[a]	Standard strike
6	1	B25640	Standard steel strike box

a. Specify finish.

OTHER COMPONENTS

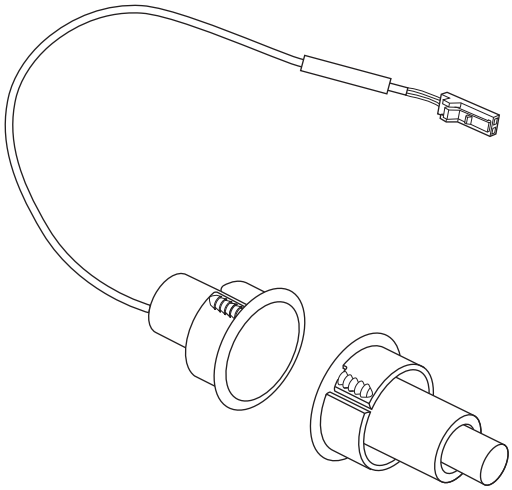


Figure 4.8 Door position switch and magnet assembly

Other components list

Refer to Figure 4.8 and the table below to find the part you need.

Item	Part No.
Door position switch and magnet assembly	A60413

5

Exit Device Trim Components

This chapter provides exploded diagrams of the escutcheon assemblies for Wi-Q Exit Device Trim. It also describes exit device cylinders, levers, and lift fingers. Part numbers are provided for all field-serviceable parts.

EXIT HARDWARE TRIM COMPATIBILITY

The following table summarizes the applications for Wi-Q Exit Device Trim. For each product series, the compatible function numbers are shown for each type of exit hardware.

	Exit hardware manufacturer, product series, and compatible functions		
Exit hardware type	**Von Duprin 98/99 Series**	**BEST Precision Hardware 2000 Series[a]**	**Sargent 8800 Series**
Rim – w/o key override	98TP, 99TP, 98L, 99L	2103	8828, 8863, 8866
Mortise – w/o key override	9875TP, 9975TP, 9875L, 9975L	N/A	N/A
Surface vertical rod – w/o key override	9827TP, 9927TP, 9827L, 9927L	2203	N/A
Concealed vertical rod – w/o key override	9847TP, 9947TP, 9847L, 9947L	2703	N/A
Rim – with key override	98TP, 99TP, 98L, 99L	2103	N/A
Mortise – with key override	N/A	2303	N/A
Surface vertical rod – with key override	9827TP, 9927TP, 9827L, 9927L	2203	N/A
Concealed vertical rod – with key override	9847TP, 9947TP, 9847L, 9947L	2703	N/A

a. To use all of the Wi-Q options, order the Q option.

INSIDE TRIM COMPONENTS

Inside trim components exploded view

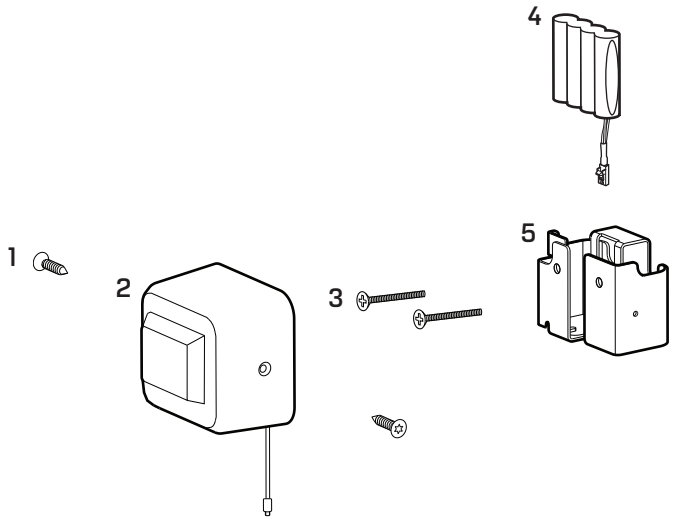


Figure 5.1 Inside trim components

Inside escutcheon parts list

Refer to Figure 5.1 and the table below to find the part you need.

Item	Qty.	Part No.	Description
1	2	A83013	TORX battery cover screw *or*
not shown	2	A82264	Battery cover screw
2	1	C82374	Battery cover assembly with wireless antenna
3	2	A64602	Battery bracket screw for doors less than 2″ thick (see also *Screw and spring kits for EXQ Series Exit Hardware Trim* on page 6–5) *or*
not shown	2	A64603	Battery bracket screw for doors 2″ thick or greater (see also *Screw and spring kits for EXQ Series Exit Hardware Trim* on page 6–5)
4	1	VPDBB	Battery pack (see also *Battery packs* on page 7–9)
5	1	C64560	Battery bracket

MAGNETIC STRIPE READER OUTSIDE ESCUTCHEON

Magnetic stripe reader escutcheon assembly exploded view

Figure 5.2 Magnetic stripe reader escutcheon assembly (BEST Precision Hardware–rim type shown)

Magnetic stripe reader escutcheon assembly parts list

Refer to Figure 5.2 and the table below to find the part you need.

Item	Qty.	Part No.	Description
1	1	B64572[a]	Lever assembly (#15 lever shown) (see *Levers* on page 5–12)
2	1	B64556	Shear pin
3	1	N/A	Magnetic stripe reader (see *Reader kits* on page 6–2)
4	1	B60321	Reader gasket
5	2	A60317	Lens cover
not shown	2	A60318	Lens retaining ring
	4	A60348	Reader assembly mounting screw
7	1	B64557	Beam
8	1	A64609	C-clip
9	1	B64571	Beam roller
10	2	A64610	Lever return spring (see also *Screw and spring kits for EXQ Series Exit Hardware Trim* on page 6–5)
11	1	D64552	Yoke
12	4	A64604	Shoulder screw (for yoke) (see also *Screw and spring kits for EXQ Series Exit Hardware Trim* on page 6–5)
13	1	B64562	Locking plate
14	1	B64573	Motor assembly
15	1	B82378	Control electronics board (see also *Control electronics kits* on page 6–3)
16	2	A64605	Electronics board mounting screw (see also *Screw and spring kits for EXQ Series Exit Hardware Trim* on page 6–5)
17	1	C82364	Primary harness (see also *Internal part kits for EXQ Series Exit Hardware Trim* on page 6–4)
18	1	B82375	Antenna jumper cable (see also *Internal part kits for EXQ Series Exit Hardware Trim* on page 6–4)
19	1	B82316	Sensor harness (see also *Internal part kits for EXQ Series Exit Hardware Trim* on page 6–4)
20	1	C64558	Lift finger (BEST Precision Hardware rim and rod shown) (for additional lift fingers, see *Lift fingers* on page 5–13)
21	1	A64607	Washer
22	1	A64600	Lift finger screw (see also *Screw and spring kits for EXQ Series Exit Hardware Trim* on page 6–5)
23	1	D64551	Mounting plate for BEST Precision Hardware and Sargent installations *or*
not shown	1	D64634	Mounting plate for Von Duprin installations
24	4	A64601	Mounting plate screw (see also *Screw and spring kits for EXQ Series Exit Hardware Trim* on page 6–5)
25	6	A64611	Mounting standoff (see also *Screw and spring kits for EXQ Series Exit Hardware Trim* on page 6–5)
26	1	C64564	Escutcheon gasket

a. Specify finish.

PROXIMITY READER OUTSIDE ESCUTCHEON

Proximity reader escutcheon assembly exploded view

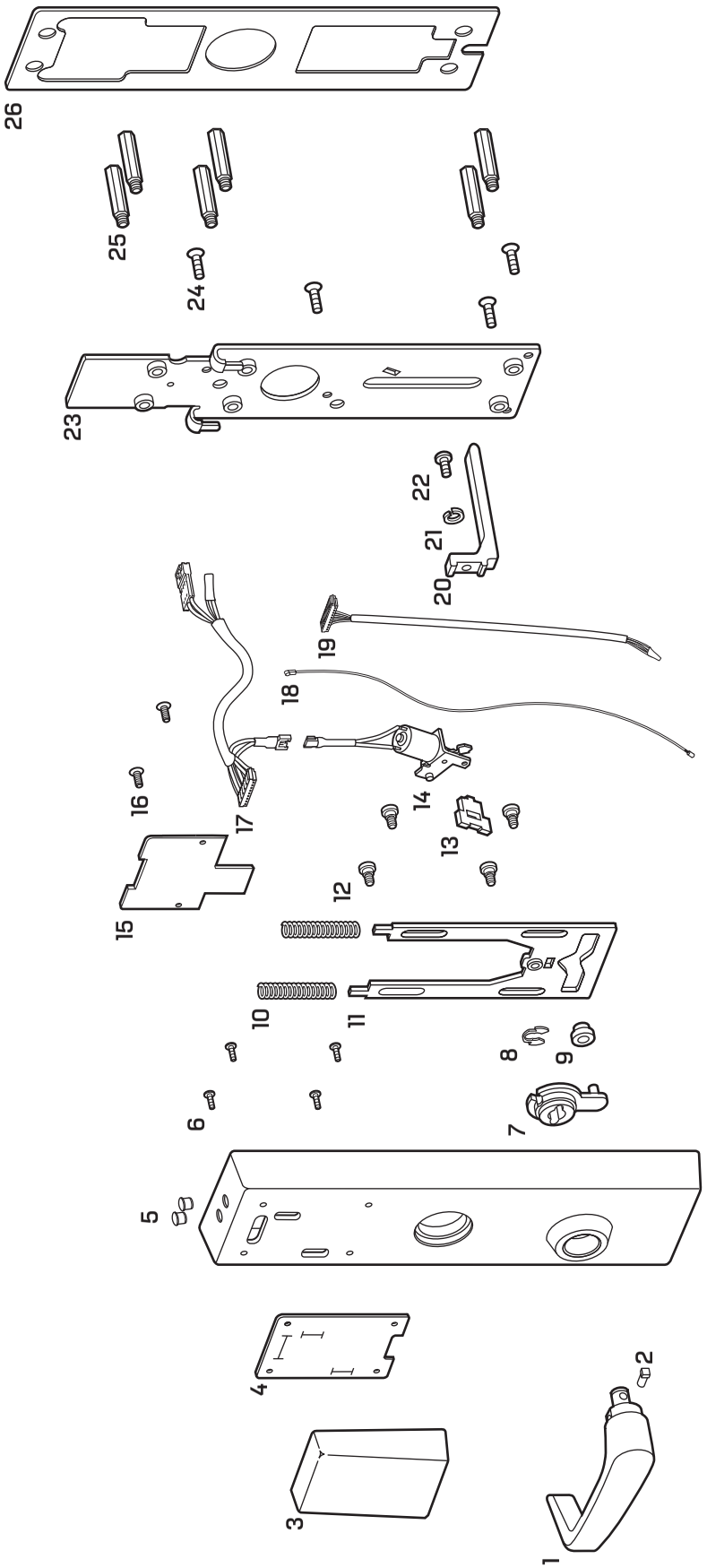


Figure 5.3 Proximity reader escutcheon assembly (BEST Precision Hardware–rim type shown)

Proximity reader escutcheon assembly parts list

Refer to Figure 5.3 and the table below to find the part you need.

Item	Qty.	Part No.	Description
1	1	B64572[a]	Lever assembly (#15 lever shown) (see also *Levers* on page 5–12)
2	1	B64556	Shear pin
3	1	B87009	Proximity reader (see *Reader kits* on page 6–2)
not shown	1	B82999	HID iCLASS proximity reader (see *Reader kits* on page 6–2)
not shown	1	B83474	PKP reader
4	1	B60321	Reader gasket
5	2	A60317	Lens cover
not shown	2	A60318	Lens retaining ring
6	4	A60348	Reader assembly mounting screw
7	1	B64557	Beam
8	1	A64609	C-clip
9	1	B64571	Beam roller
10	2	A64610	Lever return spring (see also *Screw and spring kits for EXQ Series Exit Hardware Trim* on page 6–5)
11	1	D64552	Yoke
12	4	A64604	Shoulder screw (for yoke) (see also *Screw and spring kits for EXQ Series Exit Hardware Trim* on page 6–5)
13	1	B64562	Locking plate
14	1	B64573	Motor assembly
15	1	B82378	Control electronics board (see also *Control electronics kits* on page 6–3)
16	2	A64605	Electronics board mounting screw (see also *Screw and spring kits for EXQ Series Exit Hardware Trim* on page 6–5)
17	1	C82364	Primary harness (see also *Internal part kits for EXQ Series Exit Hardware Trim* on page 6–4)
18	1	B82375	Antenna jumper cable (see also *Internal part kits for EXQ Series Exit Hardware Trim* on page 6–4)
19	1	B82316	Sensor harness (see also *Internal part kits for EXQ Series Exit Hardware Trim* on page 6–4)
20	1	C64558	Lift finger (BEST Precision Hardware rim and rod shown) (for additional lift fingers, see *Lift fingers* on page 5–13)
21	1	A64607	Washer
22	1	A64600	Lift finger screw (see also *Screw and spring kits for EXQ Series Exit Hardware Trim* on page 6–5)
23	1	D64551	Mounting plate for BEST Precision Hardware and Sargent installations *or*
not shown	1	D64634	Mounting plate for Von Duprin installations
24	4	A64601	Mounting plate screw (see also *Screw and spring kits for EXQ Series Exit Hardware Trim* on page 6–5)
25	6	A64611	Mounting standoff (see also *Screw and spring kits for EXQ Series Exit Hardware Trim* on page 6–5)
26	1	C64564	Escutcheon gasket

a. Specify finish.

DUAL VALIDATION READER OUTSIDE ESCUTCHEON

Dual validation reader escutcheon assembly exploded view

Figure 5.4 Dual validation reader escutcheon assembly (BEST Precision Hardware–rim type shown)

Dual validation reader escutcheon assembly parts list

Refer to Figure 5.4 and the table below to find the part you need.

Item	Qty.	Part No.	Description
1	1	B64572[a]	Lever assembly (#15 lever shown) (see *Levers* on page 5–12)
2	1	B64556	Shear pin
3	1	N/A	Dual validation reader (see *Reader kits* on page 6–2)
4	1	B63259	Reader gasket
5	2	A60317	Lens cover
not shown	2	A60318	Lens retaining ring
6	4	A60348	Reader assembly mounting screw
7	1	B64557	Beam
8	1	A64609	C-clip
9	1	B64571	Beam roller
10	2	A64610	Lever return spring (see also *Screw and spring kits for EXQ Series Exit Hardware Trim* on page 6–5)
11	1	D64552	Yoke
12	4	A64604	Shoulder screw (for yoke) (see also *Screw and spring kits for EXQ Series Exit Hardware Trim* on page 6–5)
13	1	B64562	Locking plate
14	1	B64573	Motor assembly
15	1	B82378	Control electronics board (see also *Control electronics kits* on page 6–3)
16	2	A64605	Electronics board mounting screw (see also *Screw and spring kits for EXQ Series Exit Hardware Trim* on page 6–5)
17	1	C82364	Primary harness (see also *Internal part kits for EXQ Series Exit Hardware Trim* on page 6–4)
18	1	B82375	Antenna jumper cable (see also *Internal part kits for EXQ Series Exit Hardware Trim* on page 6–4)
19	1	B82316	Sensor harness (see also *Internal part kits for EXQ Series Exit Hardware Trim* on page 6–4)
20	1	C64558	Lift finger (BEST Precision Hardware rim and rod shown) (for additional lift fingers, see *Lift fingers* on page 5–13)
21	1	A64607	Washer
22	1	A64600	Lift finger screw (see also *Screw and spring kits for EXQ Series Exit Hardware Trim* on page 6–5)
23	1	D64551	Mounting plate for BEST Precision Hardware and Sargent installations *or*
not shown	1	D64634	Mounting plate for Von Duprin installations
24	4	A64601	Mounting plate screw (see also *Screw and spring kits for EXQ Series Exit Hardware Trim* on page 6–5)
25	6	A64611	Mounting standoff (see also *Screw and spring kits for EXQ Series Exit Hardware Trim* on page 6–5)
26	1	C64564	Escutcheon gasket

a. Specify finish.

CYLINDERS AND RELATED COMPONENTS

Mortise cylinder and related components

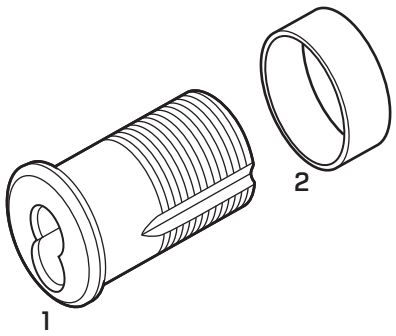


Figure 5.5 Mortise cylinder and cylinder ring

Mortise cylinder and related components parts list

Refer to Figure 5.5 and the table below to find the part you need.

Item	Part No.	Description
1	B35173[a]	7- pin cylinder assembly
2	A06280[a]	Cylinder ring

a. Specify finish.

Rim cylinder and related components

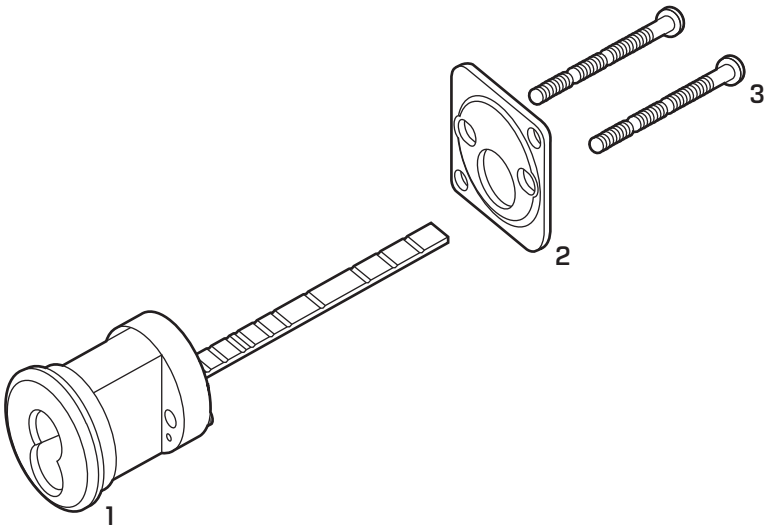


Figure 5.6 Rim cylinder and related components

Rim cylinder and related components parts list

Refer to Figure 5.6 and the table below to find the part you need.

Item	Qty.	Part No.	Description
1	1	B00689[a]	7-pin cylinder assembly
2	1	C13910	Clamp plate
3	2	A14533	Mounting screws
not shown	1	A64635	Mounting sleeve[b]

a. Specify finish.
b. For Von Duprin rim and rod applications and Sargent rim applications.

LEVERS

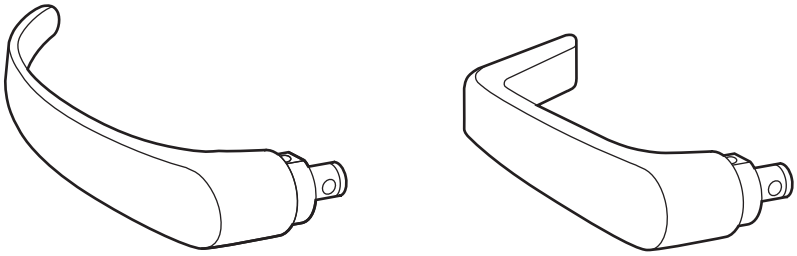


Figure 5.7 Levers diagram

Levers list Refer to Figure 5.7 and the table below to find the part you need.

Item	Part No.
#14 lever (curved return)	B64577[a]
#15 lever (contour angle return)	B64572[a]

a. Specify finish.

LIFT FINGERS

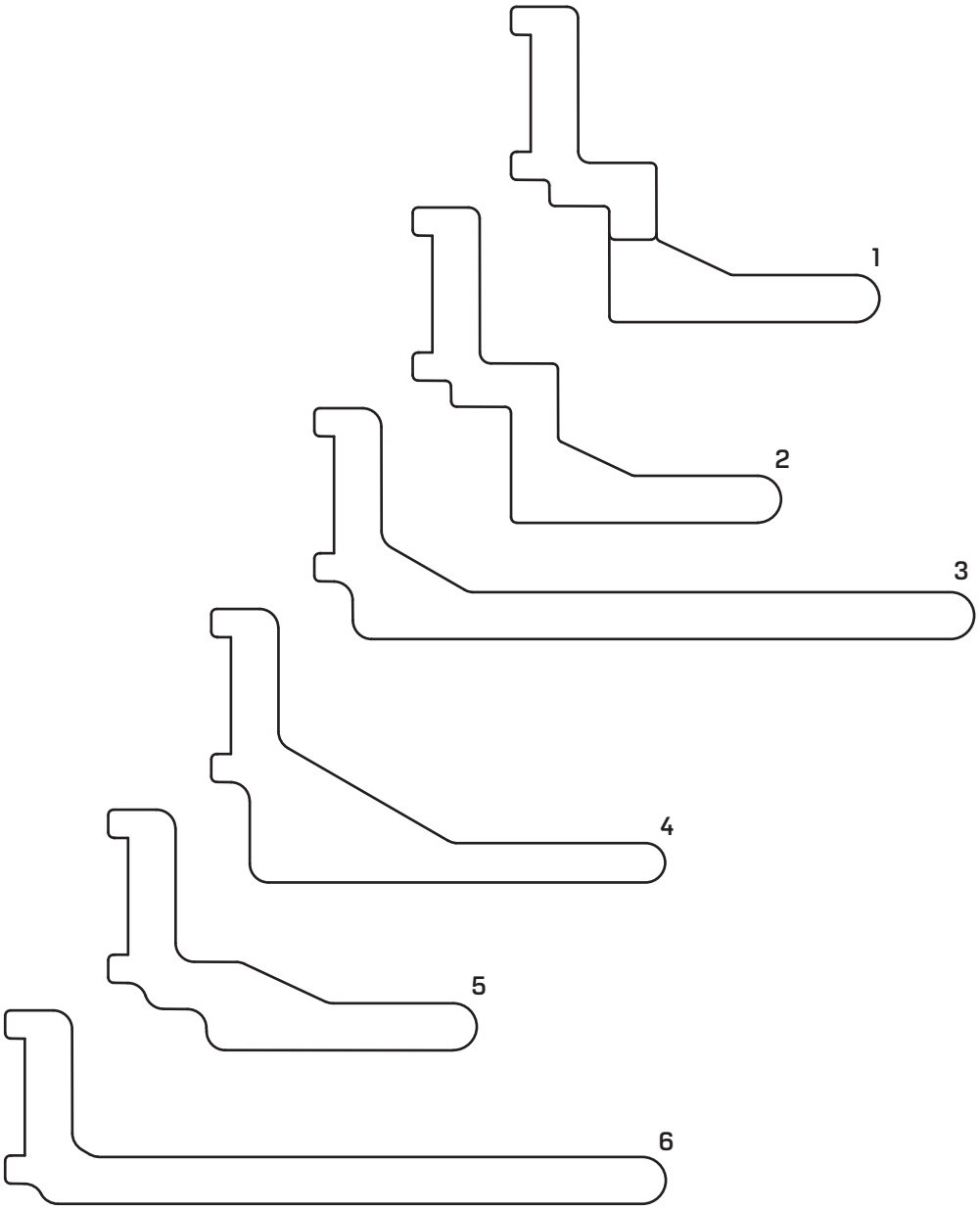


Figure 5.8 Lift fingers (shown actual size)

Lift fingers parts list Refer to Figure 5.8 and the table below to find the part you need.

Item	Part No.	Description
1	C64576	Lift finger (RHRB) for BEST Precision Hardware mortise installations
2	C64568	Lift finger (LHRB) for BEST Precision Hardware mortise installations
3	C64558	Lift finger for BEST Precision Hardware rim and rod installations
4	C81071	Lift finger for Sargent installations
5	C64566	Lift finger for Von Duprin mortise installations
6	C64633	Lift finger for Von Duprin rim and rod installations

OTHER COMPONENTS

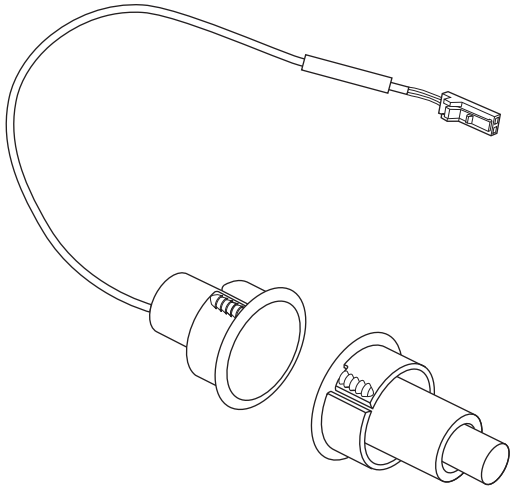


Figure 5.9 Door position switch and magnet assembly

Other components list

Refer to Figure 5.9 and the table below to find the part you need.

Item	Part No.
Door position switch and magnet assembly	A60413

CHANGING THE HANDING

Each time you change the handing you need to replace the following parts with new parts:

- escutcheon gasket (C64564)
- cable tie (73101543S)
- lift finger screw (A64600)

  Note: For part numbers for screw kits, see *Screw and spring kits for EXQ Series Exit Hardware Trim* on page 6–5.
- 4 mounting plate screws (A64601)
- 4 shoulder screws (A64604).

Note: When changing the handing for BEST Precision Hardware mortise applications, you must replace the lift finger with the correct lift finger for the desired handing. To order the (RHRB) lift finger, use part number C64576. To order the (LHRB) lift finger, use part number C64568.

1. Remove the following parts:
   - escutcheon from the door
   - mounting standoffs
   - escutcheon gasket
   - lift finger
   - mounting plate
   - lever return springs
   - yoke
   - beam and beam roller
   - lever assembly.

2. Make sure that the shear pin is positioned in the lever so that the head faces the opposite direction of the lever handle. Then insert the lever through the escutcheon, positioning the lever so its handle will point toward the door hinges. See Figure 5.10.

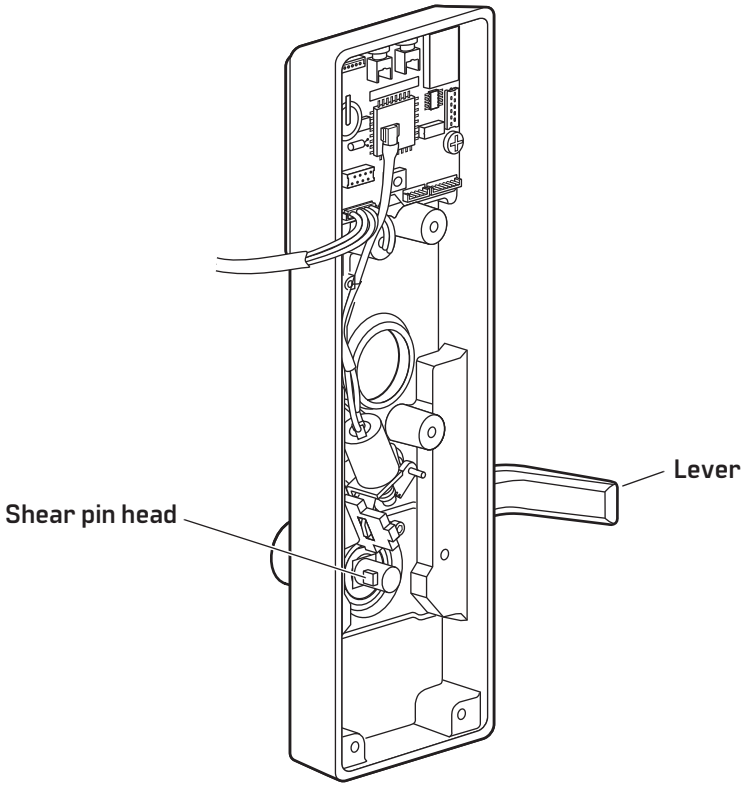


Figure 5.10 Changing the handing

3. Reinstall the following parts:
   - beam and beam roller
   - yoke
   - lever return springs
   - mounting plate
   - lift finger
   - escutcheon gasket
   - mounting standoffs
   - escutcheon on the door.

6

Field Service Kits

This chapter describes field service kits for standard Wi-Q Locks and EXQ Series Exit Hardware Trim. It includes parts lists for field replacement kits, wireless conversion kits, outside escutcheon assemblies, and inside escutcheon retrofit kits. For part numbers for individual components, see *Chapter 2 Standard Escutcheon Assemblies* beginning on page 2–1 and *Chapter 5 Exit Device Trim Components* beginning on page 5–1.

FIELD REPLACEMENT KITS

Unless otherwise noted, each kit contains a quantity of one for each component indicated.

Reader kits

The reader kits described in the table below are used for both standard Wi-Q Locks and EXQ Series Exit Hardware Trim.

		Components										
Kit Name	**Part No.**	**Magnetic stripe reader assembly (track 1)**	**Magnetic stripe reader assembly (track 2)**	**Magnetic stripe reader assembly (track 3)**	**Dual validation reader assembly (track 1)**	**Dual validation reader assembly (track 2)**	**Dual validation reader assembly (track 3)**	**Proximity reader assembly**	**HID iCLASS reader assembly**	**Escutcheon gaskets**	**Mounting plate screw**	**Lift finger screw**
Magnetic Stripe Reader (Track 1) Kit	71837869S	■								a	5	■
Magnetic Stripe Reader (Track 2) Kit	71833445S		■							a	5	■
Magnetic Stripe Reader (Track 3) Kit	71837900S			■						a	5	■
Dual Validation Reader (Track 1) Kit	71837984S				■					a	5	■
Dual Validation Reader (Track 2) Kit	71838024S					■				a	5	■
Dual Validation Reader (Track 3) Kit	71838066S						■			a	5	■
Proximity Reader Kit	71838307S							■		a	5	■
HID iCLASS Reader Kit	73128832S								■	a	5	■

a. Kit includes one escutcheon gasket for standard Wi-Q Locks and one escutcheon gasket for EXQ Series Exit Hardware Trim.

Control electronics kits

The table below describes control electronics kits for standard Wi-Q Locks and EXQ Series Exit Hardware Trim.

Kit Name	Part Number	Components: Universal wireless door controller	Exit Hardware Trim control electronics board	Magstripe temp. operator card	HID prox. temp. operator card	Motorola prox. temp. operator card	HID iCLASS temp. operator card	Mounting plate screw	Lift finger screw	Escutcheon gaskets
Standard Wi-Q Universal Wireless Door Controller Kit	73130637S	■		■	■	■	■			■
EXQ Series Exit Hardware Trim Control Electronics Kit	73130679S		■	■	■	■	■	5	■	■

Wire harness kits for standard Wi-Q Locks

The wire harness kits described in the table below are used only for standard Wi-Q Locks. For the Harness Kit for EXQ Series Exit Hardware Trim, see page 6–4.

Kit Name	Part Number	Components: Primary harness	Sensor harness	Antenna jumper cable	Escutcheon gasket
Mortise Wire Harness Kit	73130794S	■	■	■	■
Cylindrical Wire Harness Kit	73130710S	■	■	■	■

Internal part kits for EXQ Series Exit Hardware Trim

The internal part kits described in the table below are for EXQ Series Exit Hardware Trim only.

		Components										
Kit Name	Part No.	Primary harness	Sensor harness	Antenna jumper cable	Motor assembly	Socket head screw	Spacer	Shear pin	Shoulder screw	Mounting plate screw	Lift finger screw	Escutcheon gasket
Wire Harness Kit	73131075S	■	■	■						4	■	■
Motor Assembly Kit	71878973S				■	■	■			4	■	■
Shear Pin Kit	71879013S							■	4	4	■	■

Other part kits for EXQ Series Exit Hardware Trim

The kit described in the table below is for EXQ Series Exit Hardware Trim only.

		Components				
Kit Name	Part Number	Door position switch	Door position magnet assembly	Tape strip	AWG butt splice	Cable tie
EXQ Sensor Installation Pack	73106489S	■	■	2	6	2

Screw and spring kits for EXQ Series Exit Hardware Trim

The kits described in the table below are for EXQ Series Exit Hardware Trim.

Kit Name	Screw Qty.	Part No.
Battery Bracket Screw Kit for Doors Less than 2″ Thick Kit[a]	1	71842004S
Battery Bracket Screw for Doors 2″ Thick or Greater Kit[b]	1	71842046S
Mounting Standoff Kit	10	71877587S
Mounting Plate Screw Kit	1	71842161S
Lever Return Spring Kit	10	71877545S
Shoulder Screw (for Yoke) Kit	10	71879338S
Lift Finger Screw Kit	1	71842245S
Electronics Board Mounting Screw Kit	25	71839300S

a. Contains 1 1–1/4 battery bracket screws.
b. Contains 1 1–3/4 battery bracket screws.
c. Contains 10 motor mounting screws and 10 motor stop spacers.

OFFLINE LOCK–G/V SERIES TO WIRELESS CONVERSION KITS

The table below describes kits for converting a standard Offline Lock–G/V series to a Wi-Q Lock for use in a wireless application.

Kit Name	Nomen-clature[a]	Components: 9KQ Chassis[b]	45H DV Function Mortise Case[c]	45H TV Function Mortise Case[d]	Door status switch and magnet assembly	Universal control electronics board	Electronics mounting screw and spacer	Primary harness	Sensor harness	4-cell battery holder	Cable tie and retainer	Cylindrical I/S Esc Conversion Kit[e]	Mortise DV I/S Esc Conversion Kit[e]	Mortise TV I/S Esc Conversion Kit[e]
Cylindrical Wireless Upgrade Kit	WQCNKT-1	■			■	■	2	■	■		■	■		
Mortise DV Function Wireless Upgrade Kit	WQCNKT-2		■			■	2	■	■	■	■		■	
Mortise TV Function Wireless Upgrade Kit	WQCNKT-3			■		■	2	■	■	■	■			■
Cylindrical (w/o Chassis) Wireless Upgrade Kit[f]	WQCNKT-4					■	2	■			■	■		

a. Specify finish.
b. This chassis provides the new motor and includes an RQE hub.
c. Includes RQE, door position switch, latch position switch, and key override sensor to provide full alarm functionality.
d. Includes RQE, door position switch, deadbolt position switch, and key override sensor to provide full alarm functionality.
e. For a description of the kit contents, see *Inside escutcheon conversion kits* below.
f. This kit can only be used with a chassis dated January 2009 or later on the inside sleeve. It does not provide RQE functionality.

INSIDE ESCUTCHEON CONVERSION KITS

The table below describes kits for converting older standard Wi-Q Locks to the stamped inside escutcheon.

Kit Name	Nomenclature[a]	Components: Fire plate	Top cover gasket	Cover assembly with wireless antenna	Stamped escutcheon sleeving kit[b]	Cylindrical inside escutcheon bottom cover	Mortise inside escutcheon bottom cover	Mortise inside escutcheon bottom cover with thumbturn	Inside escutcheon cover mounting screw	Escutcheon mounting screw
Cylindrical Inside Escutcheon Conversion Kit	9KEKT-Q-DV	■	■	■	■	■			4	2
Mortise DV Function Inside Escutcheon Conversion Kit	40HEKT-Q-DV	■	■	■	■		■		4	2
Mortise TV Function Inside Escutcheon Conversion Kit	40HEKT-Q-TV	■	■	■	■			■	4	2

a. Specify finish.
b. Includes two sleeving strips and instructions.

OUTSIDE ESCUTCHEON ASSEMBLIES

The table below provides part numbers for ordering complete outside escutcheon assemblies for Wi-Q Locks.

	Part Number[a]		
Reader Type	**Cylindrical**	**Mortise (Standard Cylinder)**	**Mortise (Other Cylinder)**
Magnetic Stripe	C82137	C82387	C82394
Dual Validation	C82135	C82385	C82328
Proximity	C82136	C82386	C82395
HID iCLASS Prox	C83446	C83447	C83448

a. Specify finish.

7

Other Components

This chapter provides diagrams and part numbers for the following Wi-Q items:

- card readers and encoders
- wireless components including wireless access controllers, gateways, power-over-ethernet devices, transformers, modems, and antenna kits
- replacement battery packs
- service tools.

CARD READERS AND ENCODERS

Track 2 magnetic card reader

Track 1-2-3 magnetic stripe card encoder / decoder

Proximity card enrollment reader

Figure 7.1 Card encoders

Card readers and encoders parts list

Refer to Figure 7.1 and the table below to find the part you need.

Nomenclature	Description
OMD–11274	Track 2 magnetic card reader
MSR20633BA	Track 1-2-3 magnetic stripe card encoder / decoder
RDR6081AKU	Proximity card enrollment reader

WIRELESS COMPONENTS

Wireless access controller

Wireless access controller

Wireless access controller sign-on keypad

Figure 7.2 Wireless access controller

Wireless access controllers parts list

Refer to Figure 7.2 and the table below to find the part you need. For information about antenna kits sold separately, see *Antenna kits* on page 7-7.

Nomenclature	Description
WQX–WAC	Wireless access controller with half wave dipole omnidirectional antenna
WQX–WAC–C	Wireless access controller with ceiling mount omnidirectional antenna
WQX–WAC–C–B	Wireless access controller in enclosure with power supply and ceiling mount omnidirectional antenna
WQX–WAC–W	Wireless access controller with wall mount directional antenna
WQX–WAC–D–BW	Wireless access controller in Nema enclosure with power supply and exterior directional antenna
WQX–WAC–O–BW	Wireless access controller in Nema enclosure with power supply and exterior omnidirectional antenna
WQD–WACPAD	Single door controller sign-on keypad

Gateway

Figure 7.3 Gateway

Gateway parts list

Refer to Figure 7.3 and the table below to find the part you need. For information about antenna kits sold separately, see *Antenna kits* on page 7-7.

Nomenclature	Description
WQX–PG	Gateway with half wave dipole omnidirectional antenna
WQX–PG–C	Gateway with ceiling mount omnidirectional antenna
WQX–PG–C–B	Gateway with enclosure, power supply, and ceiling mount omnidirectional antenna
WQX–PG–BP	Gateway in a mounting enclosure with power supply
WQX–PG–BP–C	Gateway in mounting enclosure without power supply
WQX–PG–W WQX–PG–W–B	Gateway with enclosure, power supply, and wall mount directional antenna

Mercury Enabled Gateway

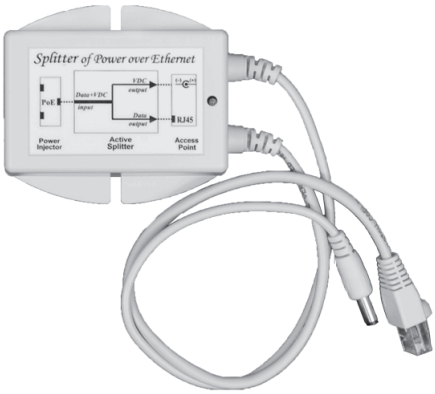
Figure 7.4 Mercury Enabled Gateway

Gateway parts list

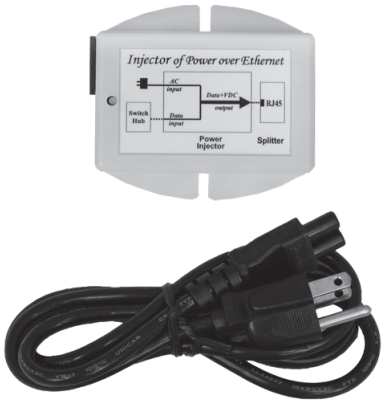
Refer to Figure 7.4 and the table below to find the part you need. For information about antenna kits sold separately, see *Antenna kits* on page 7-7.

Nomenclature	Description
WQXM–PG	Portal Gateway for up to 64 Readers/Locks* with half wave dipole omnidirectional antenna (should only be used where PG is mounted in an open area, not in a ceiling or restricted signal area).
WQXM–PG–C	Portal Gateway for up to 64 Readers/Locks* with ceiling mount omnidirectional antenna.
WQXM–PG–BP	Portal Gateway in a mounting enclosure, without Power Supply. This would be used with Power Over Ethernet (POE) devices (not included).
WQXM–PG–C-BP	Portal Gateway in a mounting enclosure, with ceiling mount omnidirectional antenna, without Power Supply. This would be used with Power Over Ethernet (POE) devices (not included).
WQXM–PG–W	Portal Gateway for up to 64 Readers/Locks* with wall mount directional antenna.

Power and adapter devices



Power-over-ethernet active splitter with isolation



Power-over-ethernet power supply / inserter

Plug-in transformer

Figure 7.5 Power and adapter devices

Power and adapter parts list

Refer to Figure 7.5 and the table below to find the part you need.

Nomenclature	Description
WQD–12928–001	Power-over-ethernet active splitter with isolation
WQD–12927–001	Power-over-ethernet power supply / inserter
WQD–12827	Plug-in transformer

Antenna kits

WQD–AWMD

WQD–ACMO

WQD–AEMO

Figure 7.6 Antenna kits

Antenna kits list

Refer to Figure 7.6 and the table below to find the part you need.

Nomenclature	Description
WQD–AEMO	Exterior omni-directional mast mount antenna kit[a]
WQD–ACMO	Interior omni-directional ceiling mount antenna kit[b]
WQD–AWMD	Interior and exterior directional wall mount antenna
WQD–AGT	kit[c] Exterior antenna grounding kit (not shown)[d]
WQD–SURG	Surge protection kit (not shown)

a. Includes antenna, wall and post mounts, and a 20′ cable to connect the antenna to a single door controller or gateway.

b. Includes antenna, wall and post mounts, and a 20′ cable to connect the antenna to a single door controller or gateway.

c. Includes antenna, standard mount, and a 20′ cable to connect the antenna to a gateway.

d. Includes antenna, standard mount, and a 20′ cable to connect the antenna to a gateway.

e. Includes coax grounding kit and lightning arrestor.

Site survey beacon

Site survey beacon parts list

In order to conduct a site survey the following will be needed.

1. WQXM-PG Gateway (Other WQXM-PG variants as listed on page 76 may also be used.) 2 Door beacon or Wi-Q Lock

Door beacons can be ordered for the purpose of conducting site surveys and can be ordered in multiples if needed for more complex site surveys. Door beacons are more portable than full lock assemblies and can be hung on the door to imitate the wireless range of a Wi-Q Lock.

Note: No special tools are needed to conduct a site survey. A survey can be preformed with a standard Wi-Q Production Lock (with keypad reader) and WQXM-PG Gateway. Door beacons are provided for convenience only.

Nomenclature or Part No.	Description
C83010	Single wireless beacon

BATTERY PACKS

Sealed battery pack

4-cell battery holder

8-cell battery holder

Figure 7.7 Battery pack

Battery packs parts list

Refer to Figure 7.7 and the table below to find the part you need.

Nomenclature	Description
VDP–BB	Sealed 4-cell battery pack
C83511	4-cell battery holder with batteries
C83522	8-cell battery holder with batteries

TOOLS

T15 TORX wrench

Figure 7.8 Tools

Tools parts list

Refer to Figure 7.**8** and the table below to find the part you need.

Part No.	Description
A82790	T15 TORX wrench

8

TROUBLESHOOTING

This chapter describes the visual and audible responses of Wi-Q Locks. It also contains instructions for troubleshooting problems. A reference table for understanding lock transaction types is also provided.

VISUAL AND AUDIBLE RESPONSE QUICK REFERENCE

The tables below summarize the visual and audible responses for Wi-Q Locks.

Visual Response	Audible Response	Meaning
Access Events		
Green	—	Access granted.
Green – Green	—	Token entered and accepted; PIN required. *Or*, manager code entered and accepted.
Green – Red – Red	—	Access granted and battery is low (warning).
Red	Chirp – Chirp – Chirp (descending)	Access denied.
Red	Chirp	Keyboard timed out.
Red	Beep – Beep (descending at start and ascending at end)	Anti-tamper state in progress.
Red – Red – Red–	—	Access denied and battery is low (warning).
	Chirp	Lock failed to read the magnetic stripe card.
Sensor Events		
Green	—	Request to exit was made. *Or*, key was detected.
Red	—	Strike relay was released.
Power Events		
Green – Green – Green – Green – Green	—	External power is active (after initial power up)
Red – Green (repeat 8 times)	Chirp – Chirp – Chirp (ascending)	Lock powered up.
Red – Red – Red – Red – Red	—	External power was removed.
Reset Events		
Green	Chirp	Lock was reset by pressing reset button.
Green – Green – Green	Chirp – Chirp – Chirp (ascending)	Lock completed a deep reset.
5 flashes (one for each test) Green = Pass Red = Fail	5 chirps (one for each test) High chirp = Pass Low chirp = Fail	Lock completed tests after being reset using the reset button.
Red – Red – Red	Beep – Beep – Beep (descending)	Lock initiated a deep reset.

Visual Response	Audible Response	Meaning
Programming and Communication Events		
Green	—	Programmer code entered and accepted.
Green steady on	—	Comm processor programming in progress.
Green – Green – Green	Beep – Beep – Beep (ascending)	Portal connected.
Green & Red (flashing until portal connected or search fails)	—	Sign-on code entered and accepted for portal search.
Green – Red – Green	—	Channel lock acquired.
Red steady on	—	Main processor programming in progress.
Red – Red – Red	Beep – Beep – Beep (descending)	Portal connection failed.

RESPONDING TO PROBLEMS

The following table provides suggestions for responding to problems with your Wi-Q System.

You notice...	Possible causes include...	You should...
Transactions, readers, or statistics are not updating *or* the gateway is not communicating.	a. A gateway error condition exists.	a. To check for error conditions: 1. Using Web Administration, log into the gateway. 2. Click Status to view the Status page. 3. Respond to any gateway errors that appear. (See the gateway errors listed in this table.)
	b. Microsoft.NET / IIS registration is not configured properly.	b. To perform a quick registration repair by re-registering ASP.NET with IIS: 1. Navigate to a command line prompt on the PC. (Run CMD from the Start button.) 2. At the command line prompt, type the following command and then press Enter: C:\Windows\Microcoft.NET\Framework\v2.0.50727\aspnet_regiis -i To perform a full repair of Microsoft.NET and IIS: 1. Navigate to the PC's Control Panel and launch Add/Remove Programs. 2. Select Microsoft.NET 2.0 Framework, select Change/Remove, and click Repair.
Readers do not remain connected	a. The gateway and / or readers are not optimally placed.	a. Check the signal strength to ensure the readers and gateways are optimally positioned in relation to each other.
	b. There are insufficient gateways to cover the areas with readers.	b. Check whether there are sufficient gateways to cover all of the readers in the building. If not, install additional gateways.
	c. Gateways and / or readers may not have the latest firmware.	c. Confirm that all readers and gateways have the latest firmware version. If not, update the readers and gateways as necessary.
Gateway error: Error 110 or 113	a. The Wi-Q Server IP address is incorrect.	a. On the Wi-Q Gateway Setup page, make sure that the IP address for the Wi-Q Server has been entered correctly.
	b. The Windows Firewall is not configured properly.	b. Check Windows Firewall and make sure that the following ports, which are required for proper communication between the Wi-Q System, SQL, and IIS, are included in the firewall exception list: Ports 80, 443, 1433, and 1434.
Gateway error: Access Denied	The Windows account is not configured properly.	Make sure that the Username and Password for WAMS Server Access match the Windows account Username and Password. Also, make sure that the Windows account has the appropriate rights and privileges.

You notice...	Possible causes include...	You should...
Gateway error: Method Not Allowed or Internal Server Error (500)	There may be a problem with IIS.	Check IIS functionality by going to the following web site: http://localhost/OSI/OSIPortalServices/OSIPortalsService.asmx
Gateway error: HTTP Errors 403 (403.1 – Check IIS)	Web server extensions may not be configured properly.	Check the Web Server Extensions and ensure ASP.NET is allowed and *not* prohibited.
Gateway error: HTTP Errors 403 (403.9 – Too many users)	The Wi-Q System has more than 4 gateways and IIS 5.x on Windows XP is configured for a maximum of 10 concurrent HTTP connections by default.	Increase the IIS 5.x connection limit to 40. **Note:** You can check the IIS log file at the following location: %WINDIR%\SYSTEM32\LogFiles. *Or*, upgrade the server to the Microsoft Windows Server 2003 operating system, which has IIS 6.1.
Gateway error: Status description = can not set column readername the value violates the maxlength limit for this column	The number of characters in the name of the reader and gateway, including the MAC address, exceeds 50 characters.	1. Delete the reader from the facility. 2. Perform a deep reset on the reader and sign back onto the system. 3. Rename the reader, making sure that the combination of reader name, gateway name, and MAC address do not exceed 50 characters.

LOCK TRANSACTION TYPES

The following table describes in numerical order each transaction that can be recorded at a Wi-Q Lock.

Transaction Type	ID	Description
AC FAIL	51	AC power to the lock was removed.
AC ONLINE	52	AC power to the lock was restored.
ALARM CLEARED	0	An alarm condition ended.
ANTI-TAMPER	6	The lock locked out users for 60 seconds after access was denied multiple times for the indicated card or PIN.
ATTEMPT	3	The lock denied entry for the indicated card or PIN.
CONFIGURATION UPDATED	18	Access information was updated for the system.
CONNECTED	36	The reader reconnected to the gateway.
CONNECTION ATTEMPT	37	The reader attempted to connect to the gateway.
DLP SUPERVISION FAULT	23	The latch status switch lost communication.
DOOR LATCH OPEN	13	The door latch was held open.
DOOR OPEN TOO LONG	12	The door was left open too long during a period when it should have been locked.
DPS SUPERVISION FAULT	24	The door position switch lost communication.
ENTRY	2	The lock allowed entry for the indicated card or PIN.
FORCED ENTRY	14	The door was opened without an Access Granted event.
INPUT POINT – ALARM	22	The I/O configured as alarm was activated.
INPUT POINT – NORMAL	20	The I/O configured as normal was activated.
INPUT POINT – WARNING	21	The I/O configured as warning was activated.
INVALID TRANSACTION	–1	Credential information is corrupt.
TYPE KEY BYPASS	8	The lock was unlocked using the key override.
KEY SUPERVISION FAULT	25	The key override switch lost communication.
LOGON	1	The controller connected to the gateway.

Transaction Type	ID	Description
LOST DATA	10	Packets of information were not received by the lock.
LOW BATTERY	15	The lock's batteries are low and should be replaced immediately.
LOW BATTERY SHUTDOWN	16	The lock can no longer function because its battery power is too low.
MOTOR FAULT	17	The lock's motor was not detected or was not operable.
PORTAL ANTI-TAMPER	50	The anti-tamper switch for the gateway has been tripped.
PORTAL BATTERY SHUTDOWN	53	The gateway shut down due to low battery power.
PORTAL FIRMWARE UPDATE	33	The firmware for the gateway was updated successfully.
PORTAL LOGIN ATTEMPT	35	An attempt to log into the gateway failed.
PORTAL LOGIN SUCCESSFUL	34	An attempt to log into the gateway was successful.
PORTAL OFFLINE	31	The gateway lost its connection to the server.
READER FIRMWARE UPDATE	32	The firmware for the reader was updated successfully.
READER OFFLINE	30	The reader lost its connection to the gateway.
REMOTE ENTRY	7	The remote release switch was activated.
REQUEST TO EXIT	11	The lock responded to a request to exit.
REX SUPERVISION FAULT	26	The request-to-exit switch lost communication.
SET ACCESS LEVEL	4	The access level was assigned to the user or the timezone interval was established to the reader.
SET CLOCK	9	The gateway or reader synchronized its time with the server.
SET USER GROUP LEVEL	5	The user group information for the user was set.

A

Glossary

Armored front The mortise lock front and faceplate designed to prevent tampering with the cylinder clamp screw and case mounting screws.

Backset The distance from the faceplate to the center of the cylinder or lever.

Cam See *Cylinder cam*.

Card reader A device that reads the information encoded on magnetic stripe cards or proximity cards.

Core See *Interchangeable core*.

Cylinder See *Mortise cylinder*.

Cylinder cam A rotating part of a keyed cylinder that drives the deadbolt or latchbolt.

Cylinder ring A metal ring that fits around the cylinder and protects it from tampering. The cylinder ring also spaces the cylinder out to the right position.

Door bevel The angle on the edge of a door.

Door status sensor A sensor that monitors whether the door is open or closed. This sensor is used to detect a forced entry, or a door that is propped open.

Escutcheon A surface-mounted plate that covers holes that were made in the door for levers and cylinders.

Faceplate A finished part of a mortise lock that covers the armored front. See *Armored front*.

Figure-8 The basic shape of the interchangeable core and its housing (door lever, cylinder, padlock, and so forth.). See also *Interchangeable core*.

Fob A small device that can be carried on a key ring, has an integrated circuit to which data is encoded, and is used to activate a lock.

Hand of door The swing direction of the door as viewed from the outside of the door. A right-handed (RH) door is hinged on the right and swings inward. A left-handed (LH) door is hinged on the left and swings inward. If either of these doors swings outward, it becomes a right-hand reverse bevel (RHRB) door, or a left-hand reverse bevel (LHRB) door respectively.

Interchangeable core A figure-8 shaped device that contains all mechanical parts for a masterkeyed system. The interchangeable core can be removed by a special control key and can be recombinated without disassembling the lock. See also *Figure-8*.

Key override An optional feature that enables an authorized user (in an emergency) to bypass all electronic locking features, and open the lock with a mechanical key.

Latch status sensor A sensor that monitors whether the latchbolt is extended or retracted. This sensor can be used in combination with the door status sensor to determine whether the door is fully secure.

Lock function The way a lock operates.

Magnetic stripe card A credit-card shaped device that has a magnetic strip to which data is encoded and is used to access a lock.

Mortise cylinder A threaded lock cylinder that screws directly into the lock case. A key-driven rotating cam, attached to the back, drives the locking mechanism.

Mortise A rectangular cavity cut into the edge of a door. Also can mean the act of making such a cavity.

Mortise lock A lock that fits into a mortise. Other locks fit into bored holes or mount to a surface. See also *Mortise*.

Proximity card A credit-card shaped device that has an integrated circuit to which data is encoded and is used to activate a lock.

Removable core See *Interchangeable core*.

Request-to-exit switch A switch that allows the user to exit without setting off an alarm. Wi-Q Locks can be supplied with an internal request-to-exit switch. Turning the inside lever actuates the switch and, when wired to an alarm system, sends a signal to disable or sound an alarm, start a timer, and so forth.

Template A precise, detailed hole pattern that serves as a guide for the mortising and drilling of doors and frames.

Wire harness A group of wires bundled together with connectors at either end.

B

Installation Instructions

The following pages contain:

- *Installation Instructions for 40HQ Wi-Q™ Mortise Locks*
- *Installation Instructions for 9KQ Wi-Q™ Cylindrical Locks*
- *Installation Instructions for EXQ Wi-Q™ Exit Hardware Trim*

Installation Instructions for Wi-Q™ Technology 45HQ Mortise Locks

Contents

These installation instructions describe how to install your 45HQ Mortise Lock. Topics covered include:

Patents

Products covered by one or more of the following patents:

6,720,861

1 Identify holes to drill

1 Determine the lock function to be installed.

Caution: **Determine the inside and outside, hand, and bevel of the door.**

2 See the *Holes by Function* table and Figure 1 to determine the holes to be drilled for the lock function.

Holes by Function	Functions			
	DV		TV	
Holes to drill	I/S	O/S	I/S	O/S
A Forged trim (2 holes)†	Through door		Through door	
B Harness†	Through door		Through door	
C Standard cylinder		■		■
D Sensor & motor wire (2 holes)	■		■	
F Thumb turn			■	
G Trim mounting (2 holes)‡	Through door		Through door	
H Lever††	Through door		Through door	
J Door sensing channel (2 holes)	DO NOT DRILL		See Figure 1	

† 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.

For hole sizes, see the Q06 Template *(T82606).*

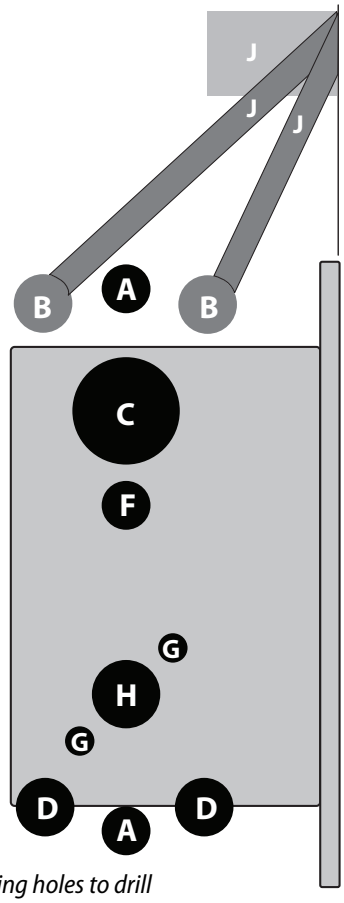


Figure 1 Identifying holes to drill

Preparing the door

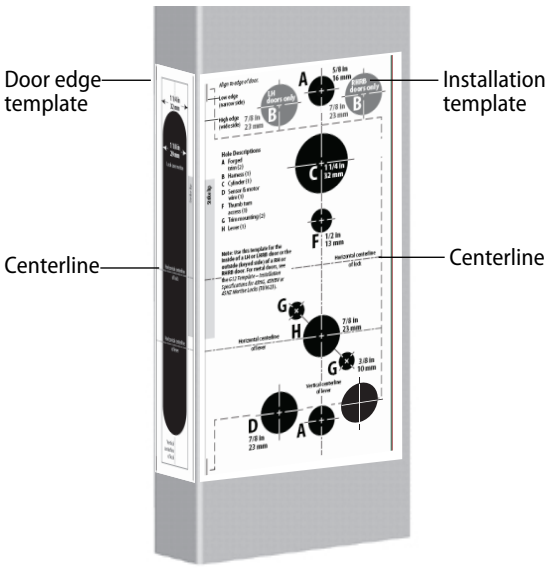


Figure 2 Aligning the templates

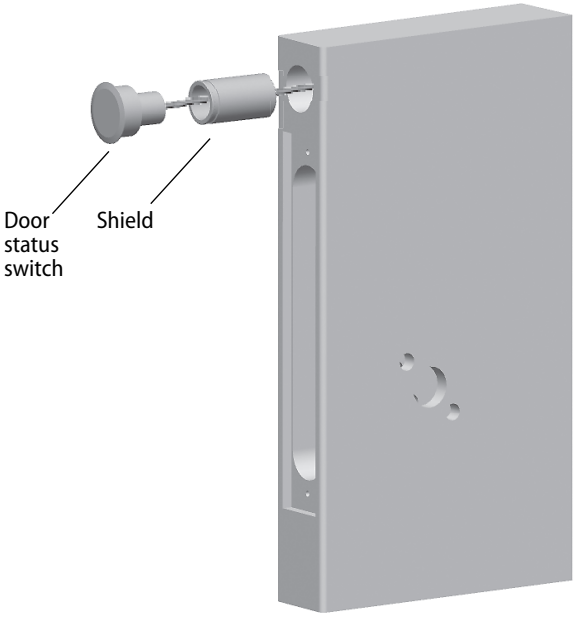


Figure 3 Installing the door status switch

2 Align templates

Note: *If the door is a fabricated hollow metal door, determine whether it is properly reinforced to support the lock. If door reinforcement is not adequate, consult the door manufacturer for information on proper reinforcement. For dimensions for preparing metal doors, see the Q03 Template—Installation Specifications for 45HQ Mortise Locks (T82603).*

1 Separate the four templates provided on the *Q06 Template—Installation Template for 45HQ Mortise Locks* (T82606).
2 Position one of the door edge templates on the door, making sure that the lock case mortise shown on the template aligns with the mortise pocket prepared in the door.
3 Using the centerlines on the door edge template as a guide, position the appropriate door template on each side of the door. You need to take the bevel into account. Tape the templates to the door.

3 Center punch and drill holes

1 Center punch the necessary drill points. See the instructions on the template.
2 Drill the holes.

Note 1: *To locate the center of a hole on the opposite side of the door, drill a pilot hole completely through the door.*

Note 2: *For holes through the door, it is best to drill halfway from each side of the door to prevent the door from splintering.*

4 Install door status switch *(optional for deadbolt TV function locks only)*

1 Position the shield on the door status switch with the notch facing downwards (towards the mortise pocket).

Caution: **Make sure the wires are not routed across any sharp edges or over any surface that could damage its sleeving.**

Configuring & installing the mortise case

2 Feed the wires for the door status switch into the door status switch hole and through the channel into the mortise cavity and out through one of the sensor and motor wire holes.

3 Press fit the door status switch assembly into the door status switch hole.

5 Rotate latchbolt *(if necessary)*

Note: *If a function specific mortise case was ordered, some steps for configuring the case have already been performed at the factory.*

1 Determine whether you need to rotate the latchbolt to match the handing of the door.

Note: *The angled surface of the latchbolt must contact the strike when the door closes.*

2 If you need to rotate the latchbolt, insert a flat blade screwdriver into the latch access point approximately 1/2″ into the case and press to extend the latch out of the case. See Figure 4.

3 Rotate the latchbolt 190 degrees (slightly past 180 degrees) and allow it to retract into the case.

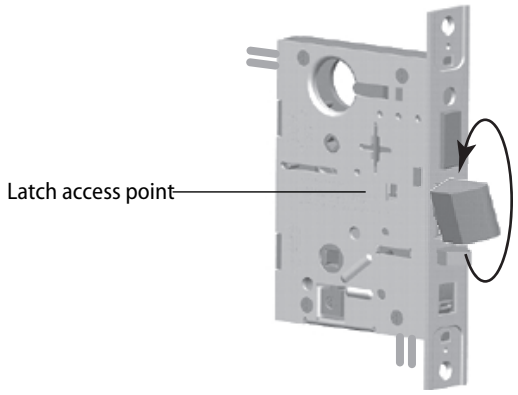


Figure 4 Rotating the latchbolt

6 Position hub toggles *(if necessary)*

1 Check whether the hub toggles are in the proper position for the lock. See the table below and Figure 5.

Hub toggle positions

Function	Hub toggle positions
DV, TV	Inside down (always unlocked) & outside up (lockable)

Note 1: *For LH & LHRB doors, the inside is the back side of the case and the outside is the cover side of the case. For RH & RHRB doors, the inside is the cover side of the case and the outside is the back side of the case. The cover is mounted to the case with four screws.*

Note 2: *Two RQE status switches are installed in the mortise case. However, only the switch for the inside of*

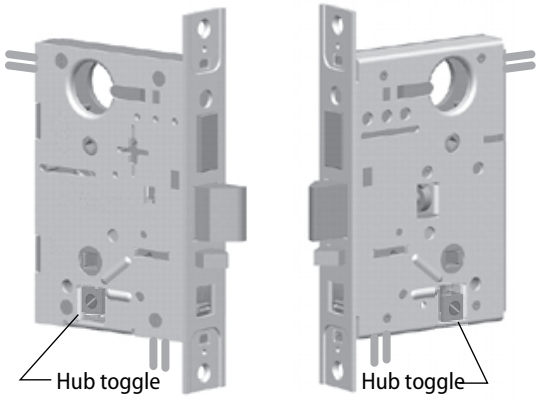


Figure 5 Positioning hub toggles

Installing the trim

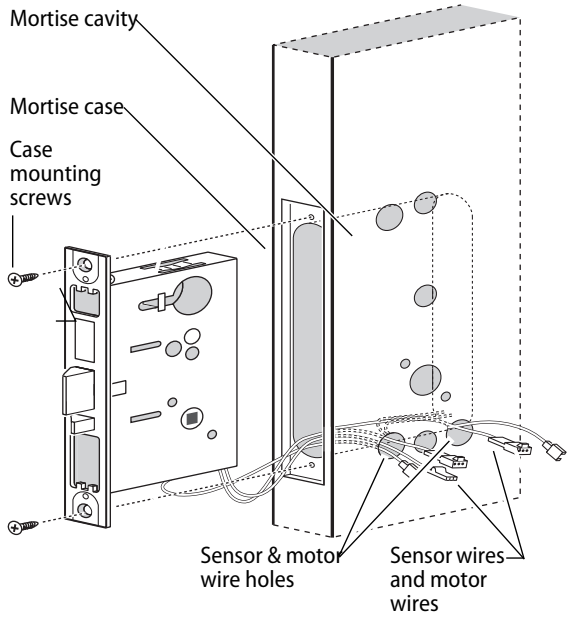


Figure 7 Installing the mortise case (inside of door)

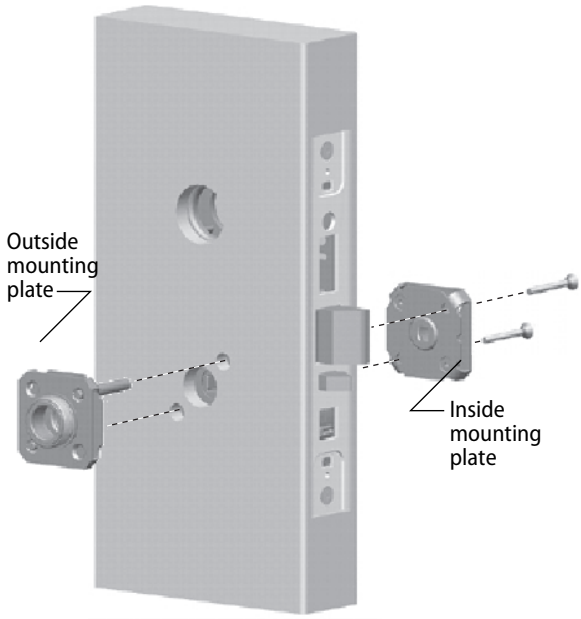


Figure 8 Installing the trim mounting plates

the lock needs to be connected. Before you install the mortise case in the door, determine whether you need to connect the 'Case Side' pair of RQE wires or the 'Cover Side' pair of RQE wires, based on the handing of the door.

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

7 Install mortise case

1 Drill the holes for the case mounting screws.

2 Insert the mortise case into the mortise cavity, while feeding the sensor and motor wires into the mortise cavity and out the two sensor & motor wire holes to the inside of the door as shown in Figure 7.

Note: *The armored front of the mortise case self-adjusts to the door bevel.*

3 Secure the mortise case with the case mounting screws.

8 Install trim mounting plates

1 Insert the outside trim mounting plate through the door and mortise case.

2 Position the inside trim mounting plate opposite the outside trim mounting plate and screw them securely in place.

Caution: **Do not overtighten the trim mounting plate screws. Overtightening may damage the locking mechanism.**

3 By temporarily installing a lever, test the lock to make sure that it doesn't bind.

Installing the trim

9 Install concealed cylinder & core

1 Use a cylinder wrench to thread the cylinder into the mortise case so that the groove around the cylinder is even with the door surface as shown in Figure 8.

Caution: **A malfunction can occur if the cylinder is threaded in too far.**

2 Secure the cylinder in the mortise case with the cylinder retainer screw.

3 Insert the control key into the core and rotate the key 15 degrees to the right.

4 With the control key in the core, insert the core into the cylinder.

5 Rotate the control key 15 degrees to the left and withdraw the key.

Caution: **The control key can be used to remove cores and to access doors. Provide adequate security for the control key.**

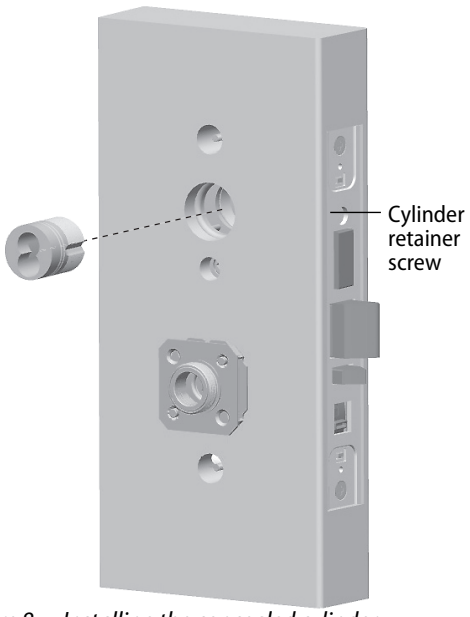


Figure 8 Installing the concealed cylinder

10 Install trim hole insert and bushing

1 Insert the trim hole insert into the upper trim hole on the outside of the door, as shown in Figure 9.

2 Insert the bushing into the harness hole on the outside of the door, as shown in Figure 9.

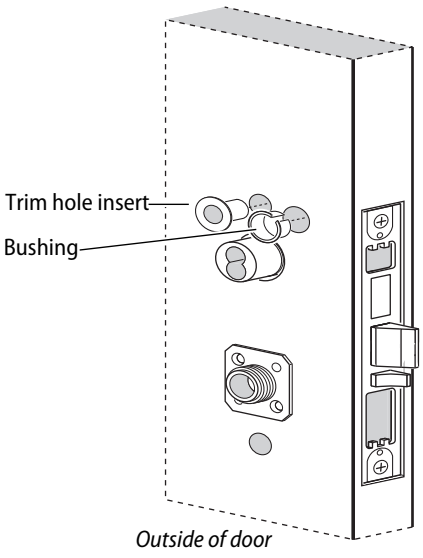


Figure 9 Installing the trim hole insert and bushing

Installing the trim

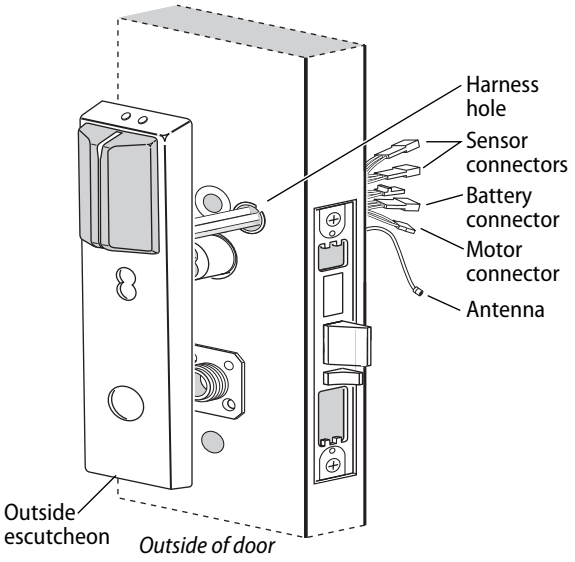


Figure 10 Feeding the wire harness connectors through the harness hole

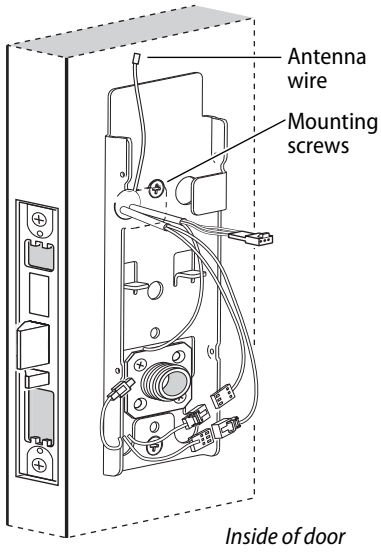


Figure 11 Installing the fire plate

11 Route wire harnesses and position outside escutcheon

1 From the outside of the door, feed the motor connector, battery connector, and sensor connectors through the harness hole.

Caution: **When routing the connectors, make sure the harnesses are not routed across any sharp edges or over any surface that could damage their sleeving or wire insulation.**

2 Perform these steps:
   a Firmly press the outside escutcheon in position on the door. The core should be flush with the outer surface of the escutcheon.
   b If necessary, adjust the cylinder depth plus or minus one turn so that the core is flush with the outer surface of the escutcheon.
   c Secure the cylinder in the mortise case with the cylinder clamp screw.

4 Rest the outside escutcheon on the door by inserting the trim studs into the trim holes.

12 Install fire plate

1 From the inside of the door, feed the wiring through the fire plate harness hole.
2 Position the fire plate on the door so that the inside mounting plate fits through the square opening in the fire plate.
3 Insert the two counter sunk mounting screws into the holes at the top and bottom of the fire plate.
4 Tighten the mounting screws until the fire plate is securely mounted to the door.

Installing the trim

13 Connect wire harnesses

1 From the inside of the door, make the following connections:

Wire connection	Colors	No. of wires	No. of pins
Motor	Yellow-gray	2	2
Key override sensor	Gray	2	3
Deadbolt sensor	Blue	2	3
RQE	Orange-brown	2	3
Door sensing	White	2	2
Latchbolt sensing	Purple	2	2

2 Insert the plastic wire tie through the mounting clip and secure the wires as shown in Figure 12.

Note: *It is physically possible to connect the key override sensor connector from the mortise case to the battery connector from the wire harness. To avoid this mistake, connect only the connectors with matching wire colors.*

Caution: **When making the motor connection and sensor connections, make sure:**

- there are no loose wire connections where the wires are inserted into the connectors
- the connectors are firmly mated

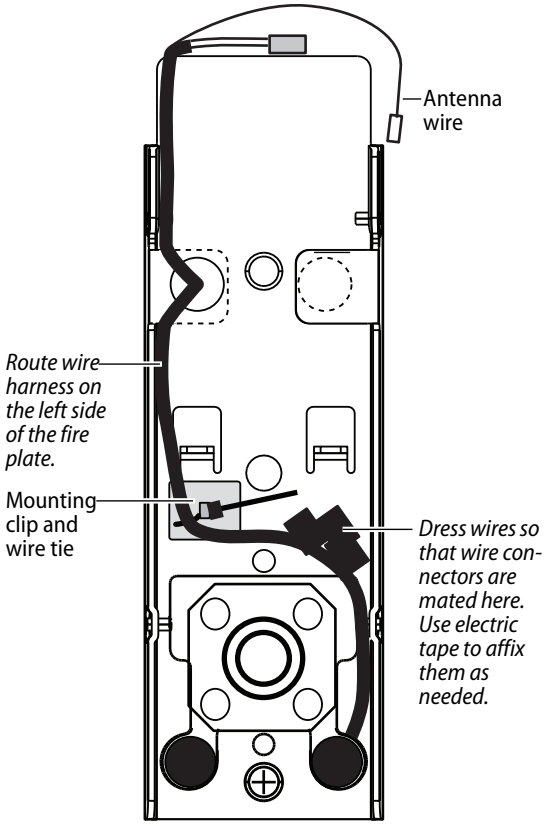


Figure 12 Routing the wires

Installing the trim

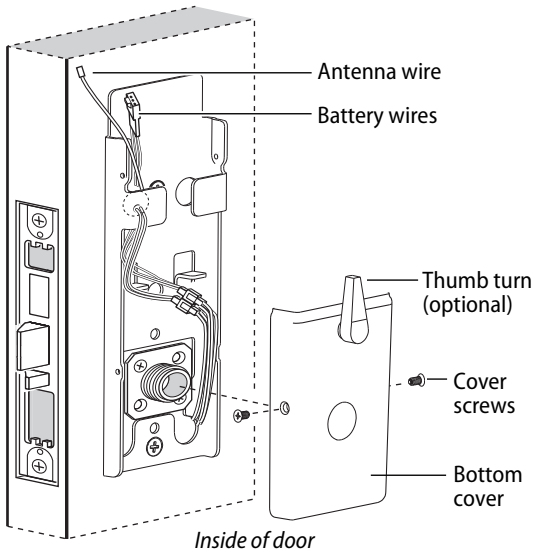


Figure 13 Installing the bottom cover

14 Install bottom cover (inside escutcheon)

1 Position the battery wires above the side tabs and against the side of the fire plate, as shown in Figure 13.

2 **Optional for Thumb Turn option only:** Make sure that the Thumb Turn is in the upright position, as shown in Figure 13.

3 **Making sure that the cover does not pinch the wires**, guide the bottom cover over the chassis onto the fire plate.

Note: *Phillips Type 2 and T20 Torx options are available for the cover mounting screws.*

Completing the installation

15 Install battery holder

1 Position the battery wires against the fire plate side wall, as shown in Figure 14.

2 Slide the battery holder behind the fire plate side tabs until it rests on the bent battery holding tabs.

Caution: **When routing the battery wires, make sure the wires are not routed across any sharp edges or over any surface that could damage their sleeving or wire insulation.**

3 Connect the battery pack to the battery connector on the wire harness.

Caution: **When connecting the battery pack, make sure:**

- there are no loose wire connections where the wires are inserted into the connectors.
- the connectors are firmly mated.

16 Install inside and outside levers

1 Unscrew the inside spindle one full turn to allow the spindles to turn freely.

2 With the handle pointing toward the door hinges, insert the outside lever and spindles assembly into the lock from the outside of the door.

3 Slide the inside lever onto the inside spindle and secure it with the set screw.

4 Making sure that the core is positioned properly in the outside escutcheon (DV and TV function Locks only) and the escutcheons are aligned properly on the door, tighten the escutcheon mounting screws.

Note: *If a core is not available, you can use the cylinder wrench to help you align the core opening in the escutcheon.*

5 Turn the levers to check that they operate smoothly.

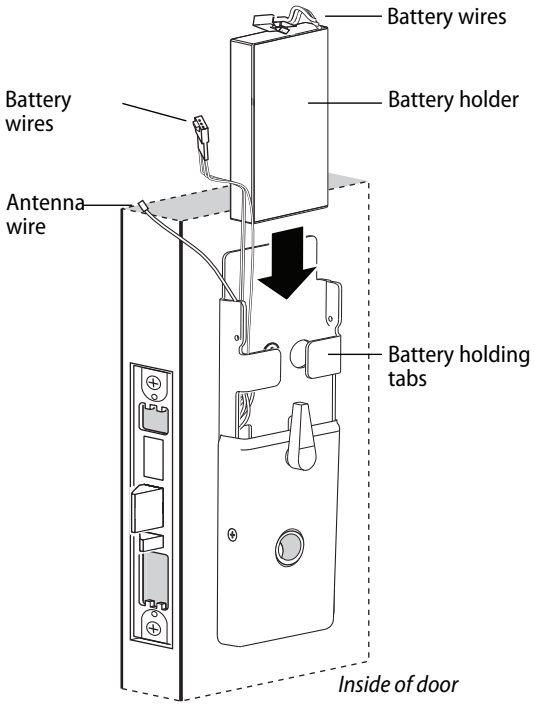


Figure 14 Installing the battery holder

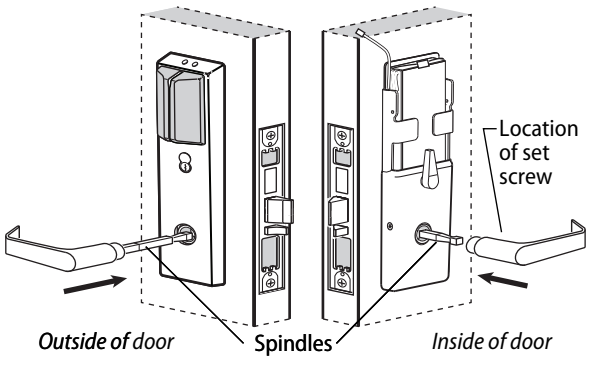


Figure 15 Installing the levers

Completing the installation

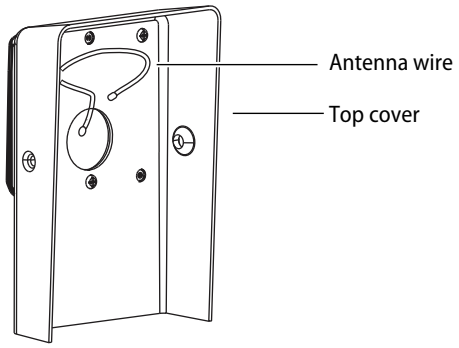


Figure 16 Inside view of top cover

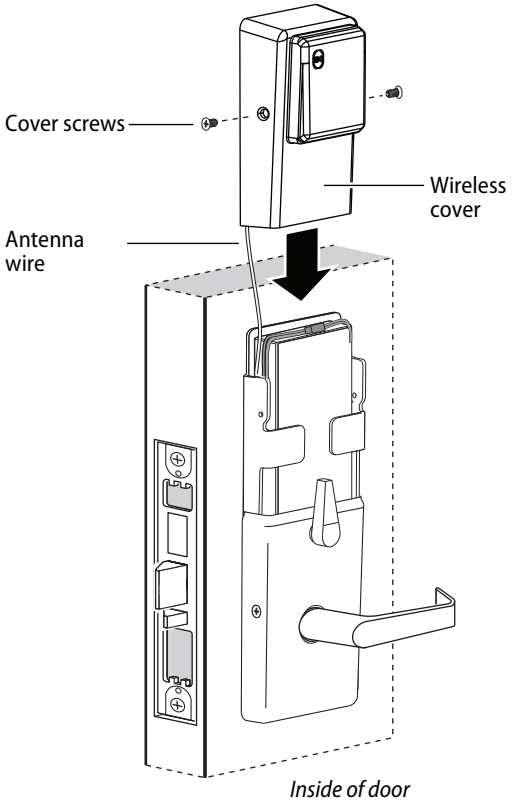


Figure 17 Installing the top cover

17 Install top cover (inside escutcheon)

1 Connect the antenna to its mating connector.

2 Place the top cover against the door and above the fire plate. Slide the top cover down toward the bottom cover as shown in Figure 17.

Caution: **As you slide the top cover onto the fire plate, feed the antenna wire down into the bottom cover. Be sure not to pinch the antenna wire on the bottom cover as you slide the top cover into place.**

3 Use two cover screws to secure the cover to the side of the fire plate, as shown in Figure 17.

Note: *Phillips Type 2 and T20 Torx options are available for the cover mounting screws.*

18 Install mortise case faceplate

1 Secure the mortise case faceplate to the mortise case with the faceplate mounting screws.

2 Check the lock for proper operation.

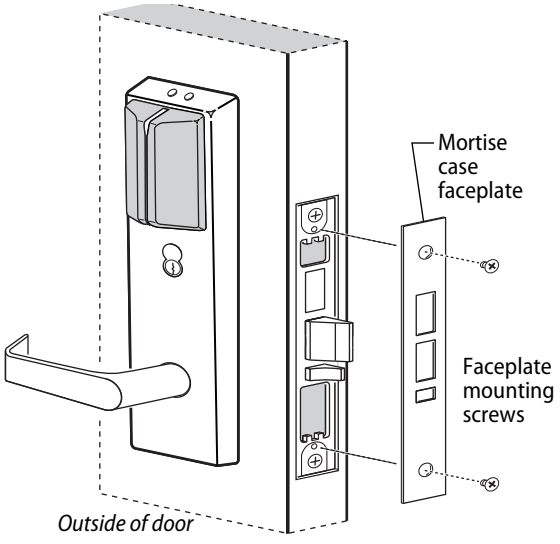


Figure 18 Installing the mortise case faceplate

Completing the installation

19 Install strike box and strike plate

1 Insert the strike box into the mortise in the door jamb. Place the strike plate over the strike box and secure the strike with the screws provided.

2 Check the position of the auxiliary bolt against the strike plate.

Caution: **The auxiliary bolt must make contact with the strike plate. The auxiliary bolt deadlocks the latchbolt and prevents someone from forcing the latch open when the door is closed. If the incorrect strike is installed, a lock-in can occur.**

Note: *The recommended gap between the door and jamb is 1/8″.*

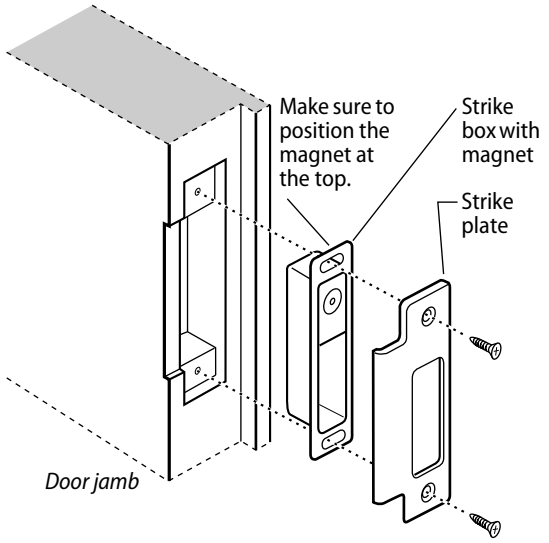


Figure 19a Installing the strike box and strike plate

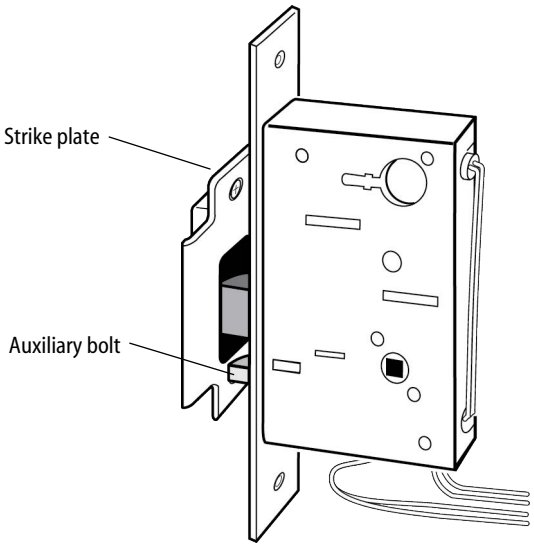


Figure 19b Positioning the strike

Testing the lock

20 Test lock

For 45HQ Locks with keypad

To test the lock for proper operation before the lock is programmed, follow these instructions:

1 Press **1234**.

2 Press **#**.

The green light flashes and the locking mechanism unlocks.

3 Turn the lever and open the door.

For all other locks:

To test the lock for proper operation before the lock is programmed, use the temporary operator card that came with the lock. This card is for temporary use only. After permanent cards have been programmed for the lock, the temporary card should be deleted.

1 Use the temporary operator card to activate the lock.

Note: *If the lock has a proximity card reader, it may have already been activated by the presence of an object near the card reader.*

2 Use the temporary operator card to access the lock.

The green light flashes and the locking mechanism unlocks.

3 Turn the lever and open the door.

If the mechanism doesn't unlock, refer to the following table. For additional troubleshooting instructions, see the Service Manual.

LEDs	Sounder	You should
Single red flash	—	Use the card at a moderate speed.
Red flashes	3 short tones	Use the temporary operator card provided with the lock.
Green flashes	—	Check the motor connection.
—	—	Check the battery connection.

For all locks

1 Insert and turn the key to unlatch the door.

For all TV function locks

2 From the inside of the door, turn the turn knob and make sure that the deadbolt operates properly.

T82623/Rev F 3108931 ER-7991-12 November 2019

Installation Instructions for Wi-Q™ Technology 9KQ Cylindrical Locks

BEST
dormakaba Group

Planning the installation

Contents

These installation instructions describe how to install your 93KQ Cylindrical Lock. Topics covered include:

Patents

Products covered by one or more of the following patents:

5,590,555 5,794,472 5,083,122 6,720,861

Site survey

Use the following survey to record information about the installation site. You need this information to determine how to prepare the door for the lock.

Door information

Door handing and bevel:

- ❑ Left hand (LH)
- ❑ Left hand, reverse bevel (LHRB)
- ❑ Right hand (RH)
- ❑ Right hand, reverse bevel (RHRB)

Door thickness: _____ inches (1 3/4″ to 2 1/4″)

Environment information

Ambient temperature:

- ❑ Is within specifications. See the tables below.

This product meets the following Locked Door Outdoor test requirements for ANSI/BHMA 156.25:

Side of door	Range
Outside	–31°F to +151°F (–35°C to +66°C)

This product meets the following Full Indoor test requirements for ANSI/BHMA 156.25:

Side of door	Range
Inside and outside	+32°F to +120°F (0°C to +49°C)

Components checklist

Use the following checklist to make sure that you have the items necessary to install your Electronic Wireless Cylindrical Lock.

Components provided in the box:

- ❑ Chassis with outside lever and outside rose liner assembly
- ❑ Top and bottom inside covers
- ❑ Fire plate
- ❑ Battery holder with batteries
- ❑ Inside rose liner
- ❑ Outside escutcheon assembly
- ❑ Inside lever
- ❑ Throw member package*
- ❑ Sleeve bushing*
- ❑ Latch
- ❑ Hub washers
- ❑ Trim hole insert package
- ❑ Plastic bushing package
- ❑ Escutcheon screw package
- ❑ Door status switch assembly
- ❑ Strike package
- ❑ Bar code ID sticker (for your records)
- ❑ Installation template and instructions
- ❑ **Other components:**
- ❑ Core and control key
- ❑ Temporary operator card

Special tools checklist

Use the following checklist to make sure that you have the special tools necessary to install your Electronic Wireless Cylindrical Lock.

- ❑ KD303 Drill jig
- ❑ T20 TORX® bit driver
- ❑ KD325 Strike plate locating pin
- ❑ KD315 Faceplate marking chisel

*Patent Pending

Preparing the door and door jamb

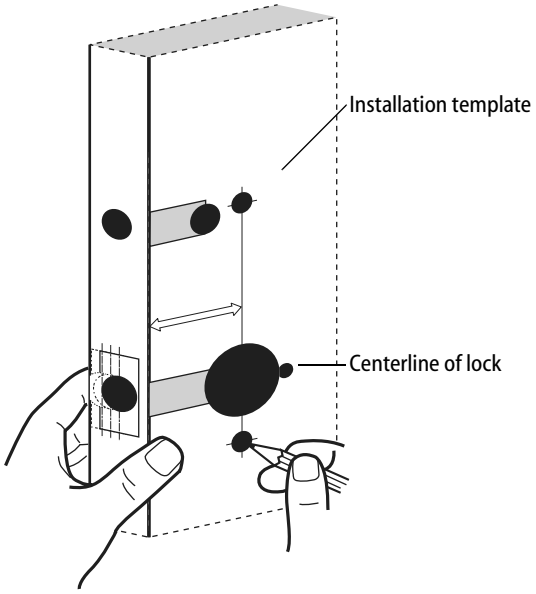


Figure 1 Positioning the template

1 Position template and mark drill points

Note: If the door is a fabricated hollow metal door, determine whether it is properly reinforced to support the lock. If door reinforcement is not adequate, consult the door manufacturer for information on proper reinforcement. For dimensions for preparing metal doors, see the Q01 and G02 Templates—Installation Specifications for 93KQ Cylindrical Locks.

Note: If the door is a LH or RH door, mark the inside of the door. If the door is a LHRB or RHRB door, mark the outside of the door.

For uncut doors and frames

1 Measure and mark the horizontal centerline of the lever (the centerline for the chassis hole) on the door and door jamb. Mark the vertical centerline of the door edge.

Note: The recommended height from the floor to the centerline of the crossbore or chassis hole is 38″.

2 Fold the *Q05 Template—Installation Template for 93KQ Cylindrical Locks* on the dashed line and carefully place it in position on the high side of the door bevel.

Note: For steel frame applications, align the template's horizontal centerline for the latch with the horizontal centerline of the frame's strike preparation.

3 Tape the template to the door.

4 Center punch the necessary drill points. Refer to the instructions on the template.

For doors with standard cylindrical preparation

1 Fold the *Q05 Template—Installation Template for 93KQ Cylindrical Locks* on the dashed line. Looking through the hole from the opposite side of the door, align the template so that you see the template outline of the 2 1/8″ diameter chassis hole.

2 Tape the template to the door.

3 Center punch the necessary drill points. Refer to the instructions on the template.

Preparing the door and door jamb

2 Drill holes and mortise for latch face

1 Drill the holes listed below:

- upper and lower trim holes
  - 5/8″ diameter
  - through door
- harness hole
  - 3/4″ diameter
  - through door
- motor wire hole
  - 7/16″ diameter
  - through door
  - before drilling chassis hole
- chassis hole
  - 2 1/8″ diameter
  - through door
  - after drilling motor wire hole
- latch hole
  - 1″ diameter
  - meets chassis hole
- door status switch hole
  - 1″ diameter
  - meets harness hole
- anti-rotational hole, see "Use drill jig to drill through-bolt holes" on page 5.
  - 5/16" diameter
  - through door

Note 1: *To locate the center of a hole on the opposite side of the door, drill a pilot hole completely through the door.*

Note 2: *For holes through the door, it is best to drill halfway from each side of the door to prevent the door from splintering.*

2 Mortise the edge of the door to fit the latch face.

3 Drill the holes for the screws used to install the latch.

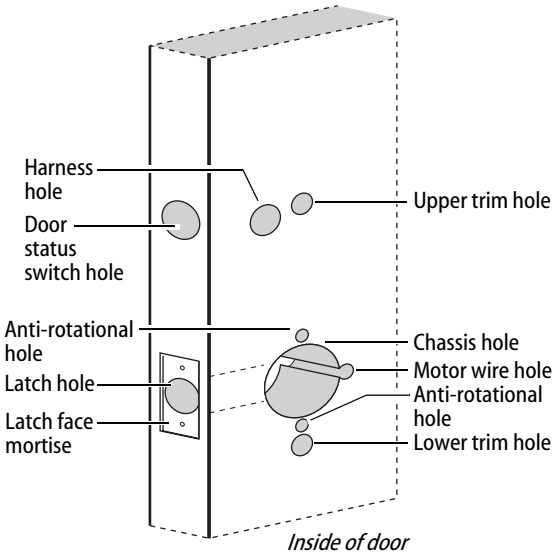


Figure 2 Drilling holes and mortising for the latch face

Preparing the door and door jamb

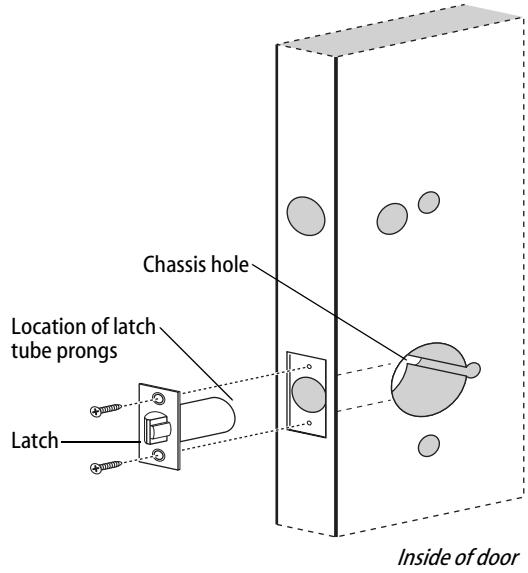


Figure 3 Installing the latch in the door

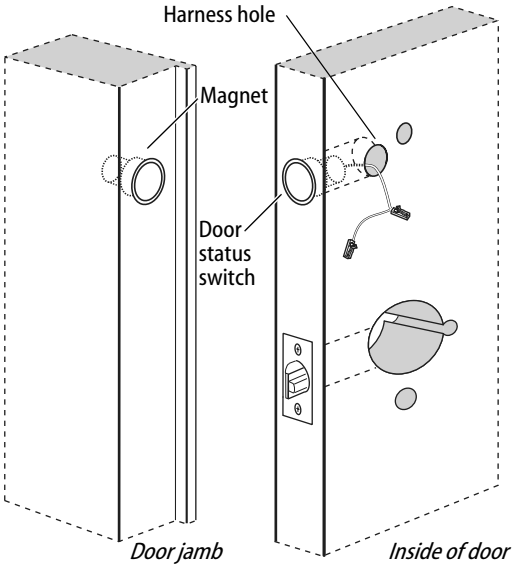


Figure 4 Installing the door status switch and magnet

3 Install latch

1 Install the latch in the door.

Note: The latch tube prongs should be centered and should project into the chassis hole.

2 Check that the door swings freely.

4 Install door status switch and magnet

1 On the door jamb, mark the drill point for the 1″ diameter magnet hole. This hole should be directly opposite the door status switch reader harness hole when the door is closed.

2 Drill a 1″ diameter hole for the magnet, at least 1 3/4″ deep.

3 Insert the magnet in the hole.

4 Insert the door status switch assembly into the door status switch hole in the edge of the door, feeding the connectors out the harness hole to the inside of the door, as shown in Figure 4.

Preparing the door and door jamb

5 Use drill jig to drill through-bolt holes

1 Press the drill jig (KD303) onto the door, engaging it with the latch tube prongs (see the close-up in Figure 5). Make sure the front edge of the jig is parallel with the door edge.

2 Drill the through-bolt holes (5/16″ diameter) halfway into the door.

3 Turn over the drill jig and repeat steps 1 and 2 from the opposite side of the door.

Note: Replace the drill jig after 10 door preparations.

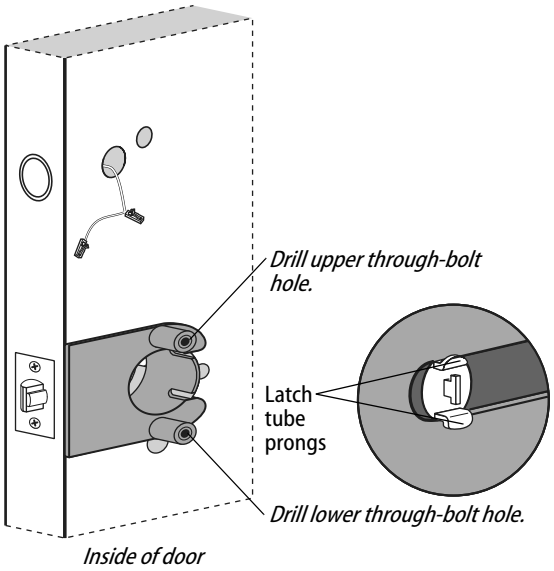


Figure 5 Installing the drill jig and drilling the through-bolt holes

Preparing the door and door jamb

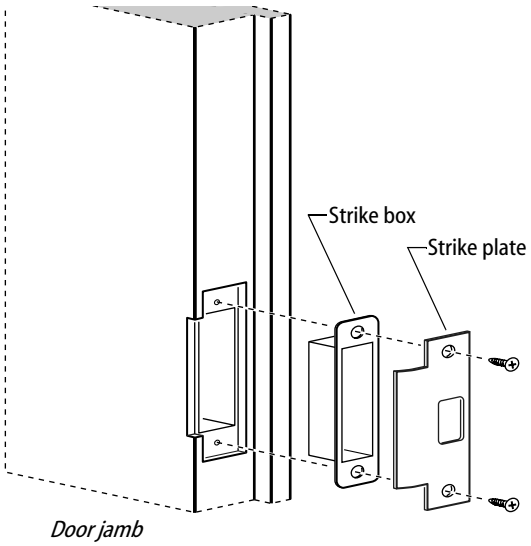


Figure 6a Installing the strike box and strike plate

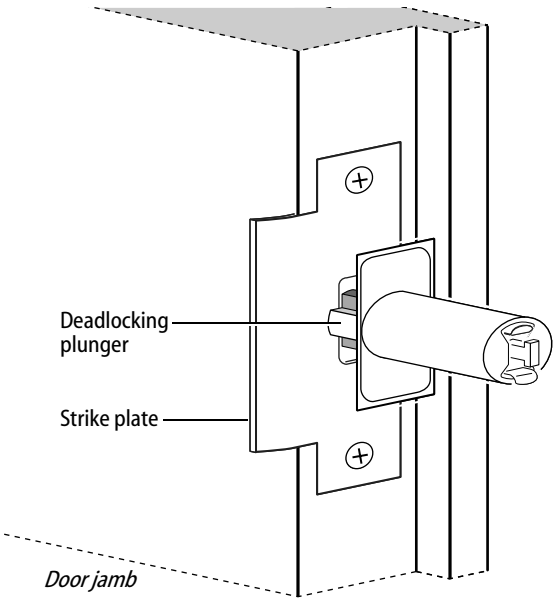


Figure 6b Aligning the deadlocking plunger with the strike plate

6 Install strike box and strike plate

1 In alignment with the center of the latchbolt, mortise the door jamb to fit the strike box and strike plate.

2 Drill the holes for the screws used to install the strike box and strike plate.

3 Insert the strike box and secure the strike with the two screws provided.

4 Check the position of the deadlocking plunger against the strike plate.

Caution: **The deadlocking plunger of the latchbolt must make contact with the strike plate, as shown in Figure 6b. The plunger deadlocks the latchbolt and helps prevents someone from forcing the latch open when the door is closed.**

Installing the lock

7 Remove outside lever or knob

1 Insert the control key into the core and rotate the key 15 degrees to the right.

2 Insert a flat blade screwdriver into the figure-8 core hole and into the lever.

3 Press the screwdriver blade in the direction of the arrow in Figure 7.

Note: You cannot remove the lever if the screwdriver blade is inserted too far past the keeper.

4 Slide the lever or knob off of the sleeve.

Caution: **Be careful that you do not disconnect the lever keeper spring.**

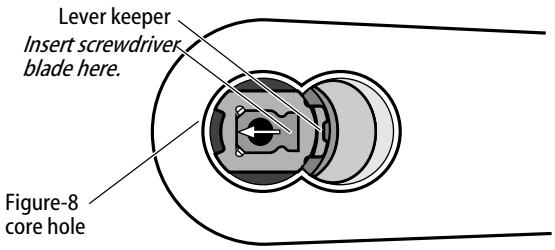


Figure 7 Removing the outside lever

8 Adjust for door thickness

1 Determine the door's thickness.

2 Pull the rose locking pin and rotate the outside rose liner until the proper groove on the through-bolt stud lines up with the hub face.

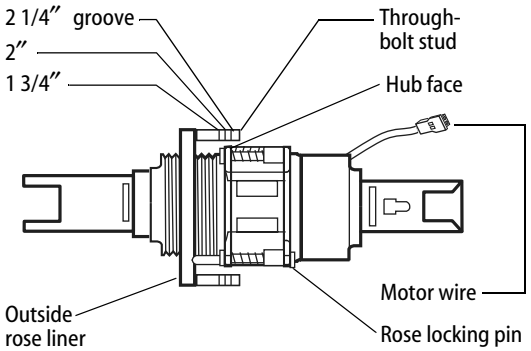


Figure 8 Adjusting the rose liner for the door thickness

Installing the lock

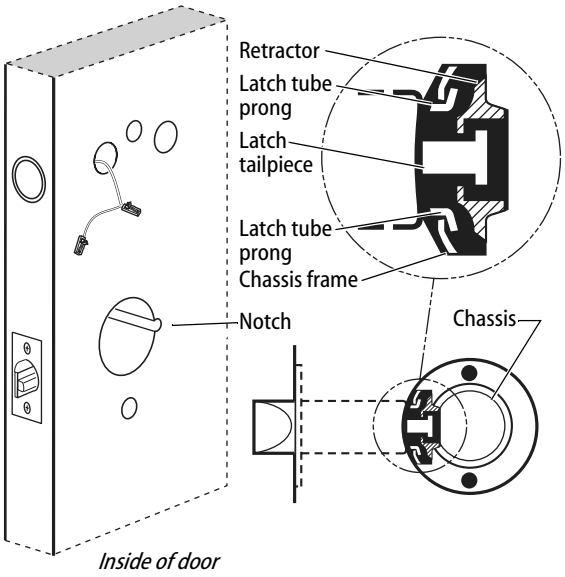


Figure 9 Installing the lock chassis and engaging the retractor in the latch

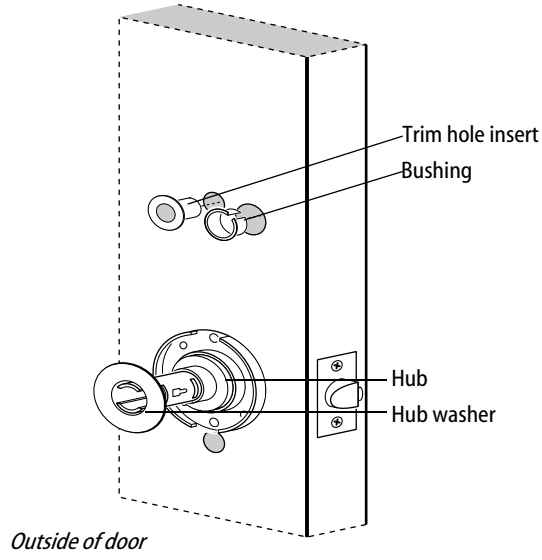


Figure 10 Installing the outside trim hole insert, bushing, and hub washer

9 Install lock chassis and engage retractor in latch

From the outside of the door, insert the lock chassis into the 2 1/8″ chassis hole, routing the motor wire through the notch.

Caution: **Make sure that the latch tube prongs engage the chassis frame and that the latch tailpiece engages the retractor.**

10 Install the trim hole insert, bushing, and hub washer on outside of door

1 On the outside of the door, insert the trim hole insert into the upper trim hole, as shown in Figure 10.

2 Insert the bushing into the harness hole.

3 Slide a hub washer over the chassis sleeve so it rests on the hub.

Installing the lock

11 Install fire plate

Position the fire plate on the inside of the door so that the chassis fits through the square opening in the fire plate, as shown in Figure 11.

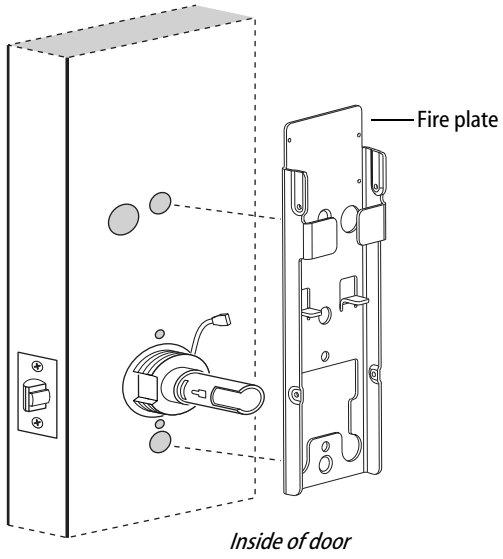


Figure 11 Installing the fire plate

12 Install through-bolts and inside rose liner

1 Place the inside rose liner on the chassis, aligning the holes in the rose liner with the holes prepared in the door, as shown in Figure 12.

Caution: **Make sure that the motor wire is pulled toward the top of the fire plate and avoid routing it over any surface that could damage the sleeving or wire insulation.**

2 Install the through-bolts through the rose liner and door in the top and bottom holes.

Caution: **Make sure that there is clearance for the motor wire between the rose liner and the door.**

3 Tighten the rose liner to the door and fire plate with the through-bolts.

4 Install the hub washer over the rose liner.

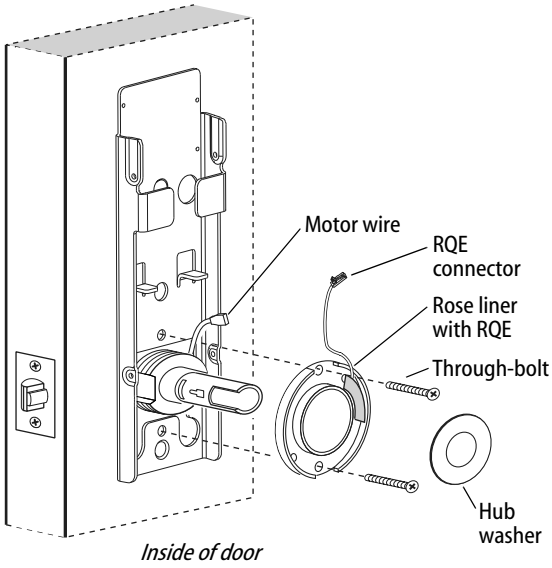


Figure 12 Installing the through-bolts and rose liner (9K shown)

Installing the lock

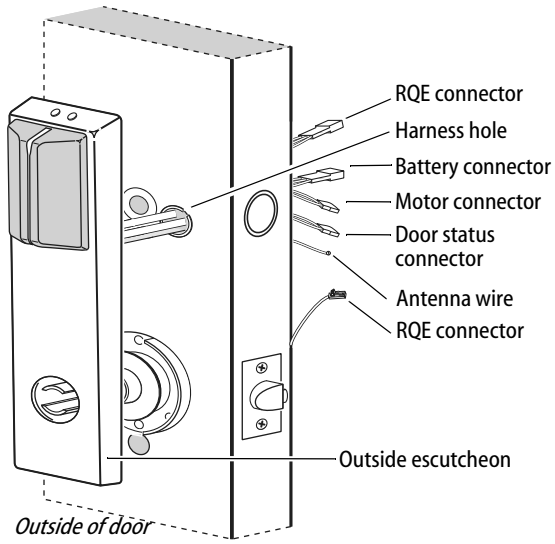


Figure 13 Feeding the wire harness connectors through the harness hole

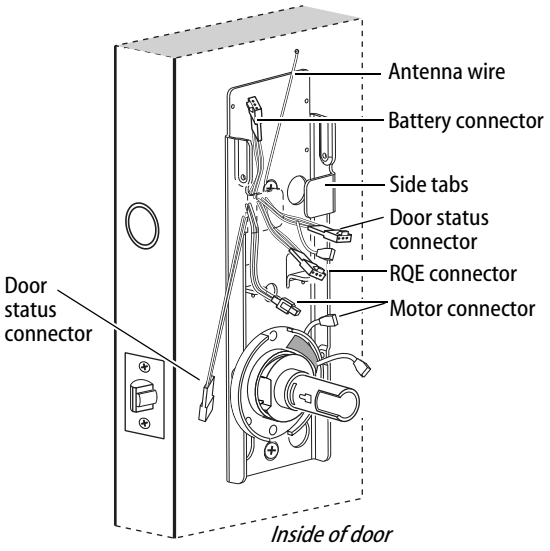


Figure 14 Routing the wires on the fire plate

13 Route wire harness and position outside escutcheon

1 From the outside of the door, feed the motor connector, battery connector, door status switch, and antenna wire, through the harness hole.

Caution: **When routing the connectors, make sure the wire harness is not routed across any sharp edges or over any surface that could damage its sleeving or wire insulation.**

2 On the inside of the door, insert the two countersunk mounting screws into the holes at the top and bottom of the fire plate.

3 Tighten the mounting screws until the fire plate is securely mounted to the door.

14 Route wires on fire plate

1 Route the motor connector wire, RQE connector, and door status connector underneath the side tabs as shown in Figure 14.

2 Route the battery connector and antenna wire above the side tabs. See Figure 15 for additional detail.

Installing the lock

15 Connect motor wires, RQE, and door status switch

1 From the inside of the door, make the following connections:

- Motor
- RQE
- Door status switch

Wire connection	Color	No. of wires	No. of pins
Motor	Yellow-Gray	2	2
RQE	Orange-Brown	2	3
Door status	White	2	2

2 Insert the plastic wire tie through the mounting clip and secure the wires as shown in Figure 15. See Figure 15 for additional detail.

Caution: **When making the motor connection, make sure:**

- there are no loose wire connections where the wires are inserted into the connectors
- the connectors are firmly mated.

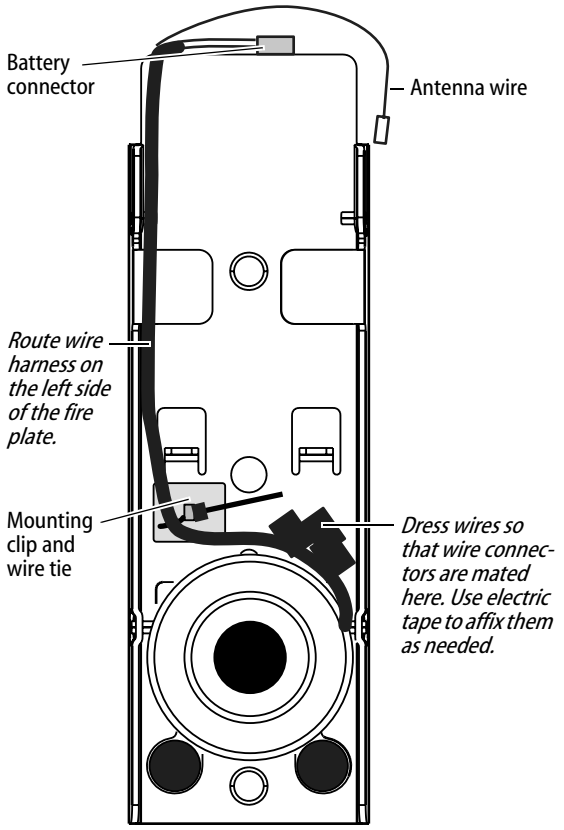


Figure 15 Routing the wires (view of the inside escutcheon)

Installing the lock

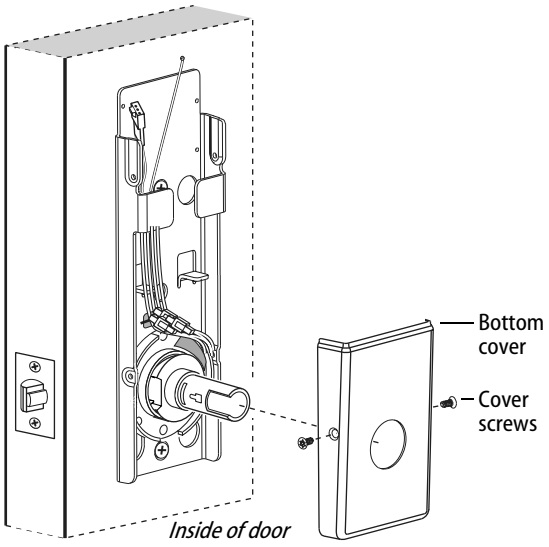


Figure 16 Installing the bottom cover

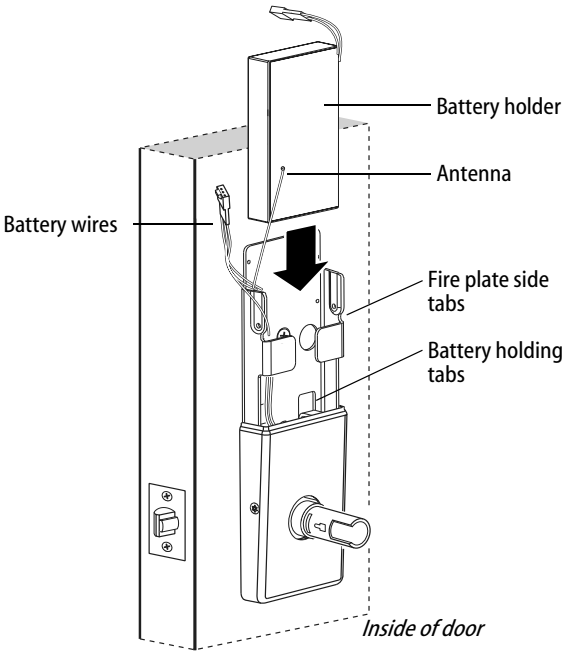


Figure 17 Installing the battery holder, eight-cell

16 Install bottom cover (inside escutcheon)

1 **Making sure that the cover does not pinch the wires**, guide the bottom cover over the chassis onto the fire plate.

2 Use two cover screws to secure the cover to the side of the fire plate, as shown in Figure 16.

Note: Phillips Type 2 and T20 Torx options are available for the cover mounting screws.

Caution: **Dress all wires away from possible pinch points before putting the bottom cover in place.**

17 Install battery holder

1 Position the battery wires against the fire plate side wall, as shown in Figure 17.

2 Slide the battery holder behind the fire plate side tabs until it rests on the bent battery holding tabs.

Caution: **When routing the battery wires, make sure the wires are not routed across any sharp edges or over any surface that could damage their sleeving or wire insulation.**

3 Connect the battery holder to the battery connector on the wire harness.

Caution: **When connecting the battery holder, make sure:**

- there are no loose wire connections where the wires are inserted into the connectors.
- the connectors are firmly mated.

Completing the installation

18 Install inside and outside levers

Note: To use a core and throw member from a manufacturer other than BEST with a Electronic Stand-alone Lock, see the Installation Instructions for 9K Non-interchangeable Cores & Throw Members *(T56093) and skip task 19.*

1 Insert the sleeve bushing into the outside sleeve.

2 **For the inside and outside levers.**
With the handle pointing toward the door hinges, position the lever on the outside sleeve and push firmly on the lever until it is seated. Repeat, placing the other lever on the inside sleeve.

3 Tighten the escutcheon mounting screws.

4 Turn the levers to check that they operate smoothly.

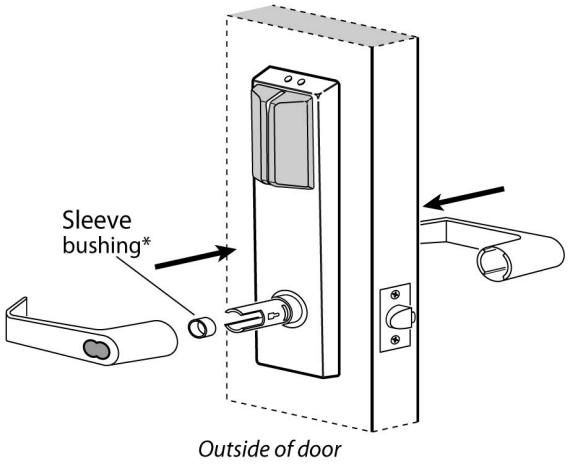


Figure 18 Installing the levers

19 Install core and throw member

1 Install the throw member into the back of the core.

2 Insert the control key into the core and rotate the key 15 degrees to the right.

Caution: **You must use the blocking plate when installing an 8K lockset to prevent unauthorized access.**

For 6-pin core users only: Install the plastic spacer (not shown, supplied with permanent cores).

3 Insert the core and throw member into the lever with the control key.

4 Rotate the control key 15 degrees to the left and withdraw the key.

Caution: **The control key can be used to remove cores and to access doors. Provide adequate security for the control key.**

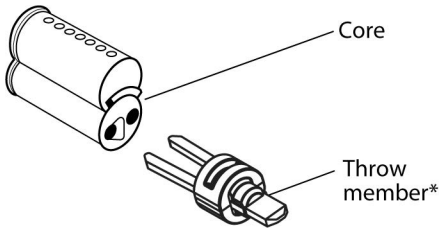


Figure 19a Installing the throw member

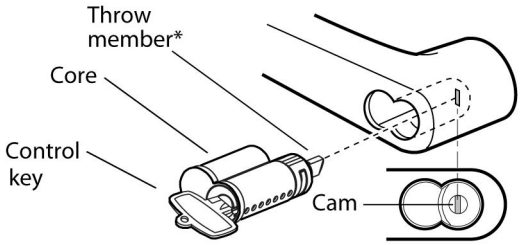


Figure 19b Installing the core

*Patent Pending

Completing the installation

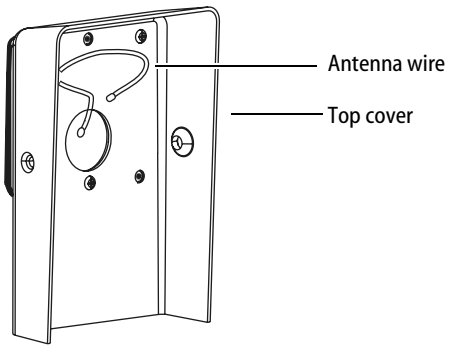


Figure 20a Inside view of top cover

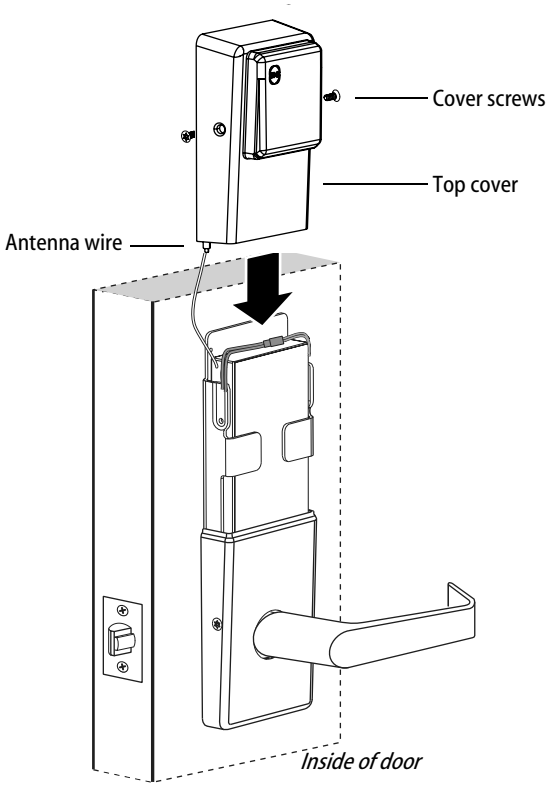


Figure 20b Installing the top cover

20 Install top cover (inside escutcheon)

1 Connect the antenna to its mating connector.

2 Place the top cover against the door and above the fire plate. Slide the top cover down toward the bottom cover as shown in Figure 20b.

Caution: **As you slide the top cover onto the fire plate, feed the antenna wire down into the bottom cover. Be sure not to pinch the antenna wire on the bottom cover as you slide the top cover into place.**

3 Use two cover screws to secure the cover to the side of the fire plate, as shown in Figure 20b.

Note: Phillips Type 2 and T20 Torx options are available for the cover mounting screws.

Completing the installation

21 Test lock

For 9KQ Locks with keypad:

To test the lock for proper operation before the lock is programmed, follow these instructions:

1 Press **1234**.

2 Press **#**.

The green light flashes and the locking mechanism unlocks.

3 Turn the lever and open the door.

For all other locks:

To test the lock for proper operation before the lock is programmed, use the temporary operator card that came with the lock. This card is for temporary use only. After permanent cards have been programmed for the lock, the temporary card should be deleted.

1 Use the temporary operator card to activate the lock.

Note: If the lock has a proximity card reader, it may have already been activated by the presence of an object near the card reader.

2 Use the temporary operator card to access the lock.

3 The green light flashes and the locking mechanism unlocks.

4 Turn the lever or knob and open the door.

5 With the door closed, insert and turn the key to unlatch the door.

If the mechanism doesn't unlock, refer to the following table. For additional troubleshooting instructions, see the Service Manual.

LEDs	Sounder	You should
Single red flash	—	Use the card at a moderate speed.
Red flashes	3 short tones	Use the temporary operator card provided with the lock.
Green flashes	—	Check the motor connection.
—	—	Check the battery connection.

For assistance or warranty information:
Call 1-800-392-5209 or visit
https://dhwsupport.dormakaba.com/hc/en-us

⚠ **Warning:** This Manufacturer advises that no lock can provide complete security by itself. This lock may be defeated by forcible or technical means, or evaded by entry elsewhere on the property. No lock can substitute for caution, awareness of your environment, and common sense. Builder's hardware is available in multiple performance grades to suit the application. In order to enhance security and reduce risk, you should consult a qualified locksmith or other security professional.

Si desea ayuda o información sobre la garantía:
llame al 1-800-392-5209 ou visite
https://dhwsupport.dormakaba.com/hc/en-us

⚠ **Advertencia:** Este fabricante have saber que no hay cerraduras que puedan proporcionar seguridad completa por si misma. Esta cerradura puede fallar forzandola o utilizando medios técnicos o entrando por otra parte del edificio. No hay cerraduras que puedan sustituir precaución, estar al tanto de su entorno y sentido común. Este fabricante también ofrece cerraduras de diferentes grados y rendimientos para ajustarse a su aplicación. Para mejorar la seguridad y reducer riesgos, usted debe consultar con un cerrajero especializado u otro profesional de seguridad.

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T82619_F

Installation Instructions for Wi-Q Technology™ EXQ Exit Hardware Trim

BEST
dormakaba Group

Introduction

These installation instructions describe how to install your BEST® Wi-Q Technology™ EXQ Series Exit Hardware Trim. Electronic Stand-Alone Exit Hardware Trim is available for use with the following types of wide stile exit devices: BEST Precision® brand manufactured by BEST (2000 Series), Von Duprin® (98/99 Series), and Sargent® (8800 Series).

Not all features are available for all exit device configurations. The table below details what sensors are available for which exit device configurations:

Device	DS[a]	TS[b]	LS[c]
BEST Precision			
Rim (2100)	■	■	■
Surface Vertical (2200)	■	■	■
Mortise (2300)	■		
Wood Door Concealed (2700)	■	■	■
Concealed Vertical (2800)	■	■	■
Von Duprin[d]			
Rim	■	■	
Surface Vertical	■		
Concealed Vertical	■		
Sargent[e]			
Rim[f]	■		

a. Door position sensing
b. Request-to-exit (PHI touchbar monitoring)
c. Latch sensing
d. Von Duprin is a registered trademark of Von Duprin, Inc.
e. Sargent is a registered trademark of Sargent Mfg. Co.
f. Latch must have lift-type trim input (8863)

Contents

These instructions cover the following topics:

Site survey

Use the following survey to record information about the installation site and hardware application.

Exit hardware type:

❑ rim ❑ surface vertical rod
❑ mortise ❑ concealed vertical rod

Door handing and bevel:

❑ Left-hand reverse bevel (LHRB)
❑ Right-hand reverse bevel (RHRB)

Door type:

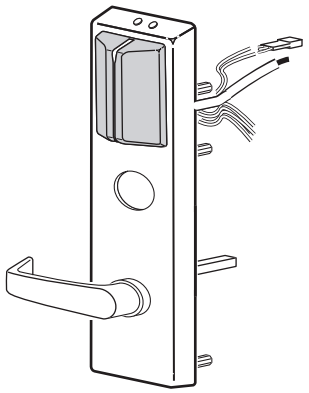
❑ Wood ❑ Metal

Door thickness: _____ inches (1-3/4″ to 2-1/4″)

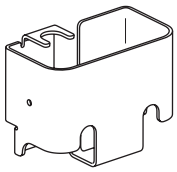
Components checklist

Use the following checklist to make sure that you have the items necessary to install your EXQ Exit Hardware Trim.

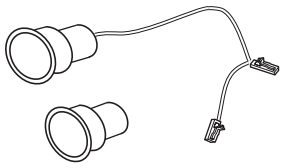
❑ Escutcheon and lever assembly



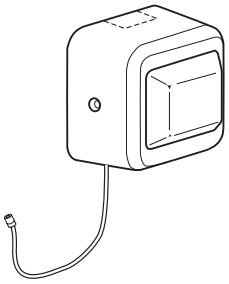
- ❑ Battery bracket



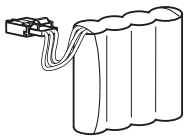
- ❑ Door position switch with magnet



- ❑ Battery cover with antenna



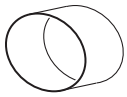
- ❑ Battery pack



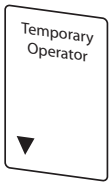
- ❑ Battery cover screw package
- ❑ Bar code ID sticker (for your records)
- ❑ Cable ties, butt-splices, and tape
- ❑ Installation templates and instructions

- ❑ 7-pin core (only included if ordered with trim)

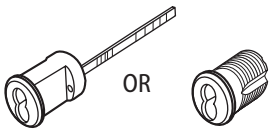
- ❑ Cylinder mounting sleeve (for Von Duprin functions only)



- ❑ Temporary operator card



- ❑ Key cylinder and keys (only included if ordered with trim).



Rim cylinder Mortise cylinder

Tools required

Use the following checklist to make sure that you have the tools necessary to install your EXQ Exit Hardware Trim.

- ❑ Electric drill (preferably corded)
- ❑ Jigsaw
- ❑ Wire snips
- ❑ Wire strippers
- ❑ Phillips screwdriver
- ❑ Measuring tape
- ❑ Straight edge
- ❑ Square
- ❑ Pencil/marker
- ❑ 7/16″ dia drill bit
- ❑ 7/8″ dia drill bit
- ❑ 1″ dia hole saw

For BEST Precision® Hardware and Sargent installations

- ❑ 1-3/8″ dia hole saw (EV function only)
- ❑ 1-1/8″ dia hole saw

For Von Duprin® installations

- ❑ 2″ dia hole saw
- ❑ 3/4″ dia hole saw

For BEST® cylinders

- ❑ BEST ED211 cylinder wrench

For surface vertical exit devices

- ❑ Razor blade

Preparing the door

1 Mark centerlines

Note 1: *If retrofitting to an existing exit hardware installation, skip this task. Instead, remove the exit hardware from the door.*

Note 2: *If the door is a fabricated hollow metal door, determine whether it is properly reinforced to support the lock. If door reinforcement is not adequate, consult the door manufacturer for information on proper reinforcement.*

1 Prepare the push side of the door according to the exit device manufacturer's installation instructions.

Note: *The tape-on template supplied with the EXQ trim will supersede the exit device template in the trim area.*

2 Transfer horizontal and vertical centerlines to the outside of the door face.

Note: *When measuring from the edge of the door, take into account the door bevel (if any).*

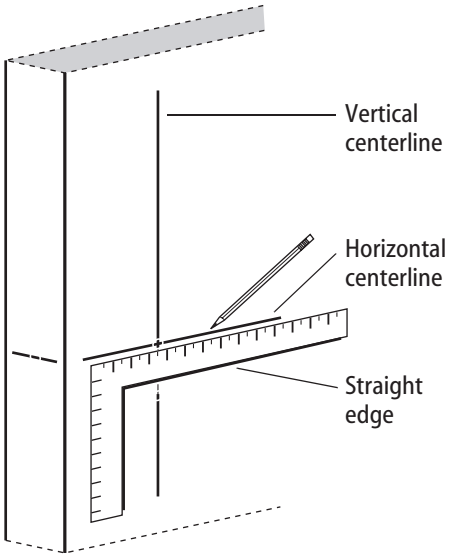


Figure 1 Marking centerlines on outside door face

2 Determine required door prep

1 Determine which template is applicable (Q08 for BEST Precision and Sargent, Q07 for Von Duprin) and discard the other one.
2 Based on the kind of exit device you have, use the table below to locate the appropriate door preparation.
3 On the template, circle the holes needed for your installation and cross out those that are not applicable.

	Device	Figure
BEST Precision	Rim (2100)	Figure 2
	Surface Vertical (2200)	Figure 3
	Mortise (2300)	Figure 4
	Wood Door Concealed (2700)	Figure 3
	Concealed Vertical (2800)	Figure 3
Von Duprin	Rim (with RQE)	Figure 5
	Rim (without RQE)	Figure 7
	Surface Vertical	Figure 7
	Concealed Vertical	Figure 7
	Sargent Rim	Figure 6

Note: *Follow the BEST Precision 2300 door preparation for Sargent, ignoring any steps directly pertaining to the mortise lock or key cylinder.*

Preparing the door

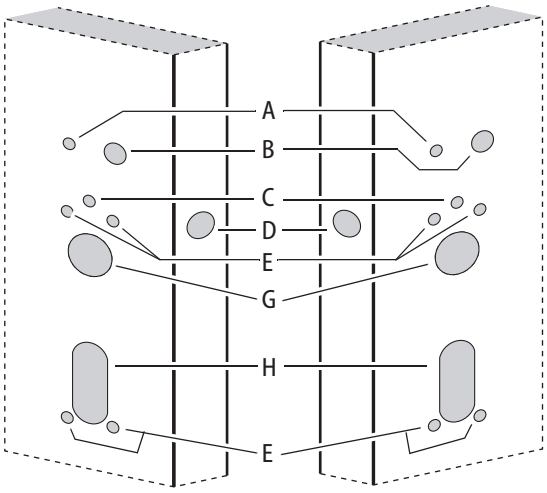


Figure 2 Outside door prep for use with BEST Precision exit hardware, 2100 Series

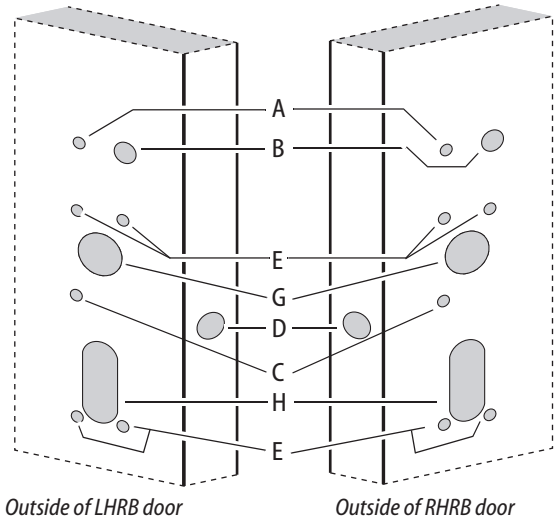


Figure 3 Outside door prep for use with BEST Precision exit hardware, 2200, 2700, and 2800 Series

Hole	Description	Instructions
A	Battery bracket hole	7/16″ diameter, thru door
B	Battery bracket/harness hole	7/8″ diameter, thru door
C	Sensor harness routing hole	7/16″ diameter, thru door
D	Door sensing switch mounting hole and channel	1″ diameter hole, drilled 1-3/4″ deep, then 7/16″ channel to intersect door sensing wire routing hole.
E	Escutcheon mounting holes	7/16″ diameter, thru door
F	Door sensing switch magnet hole (in door frame or opposing door leaf)	1″ diameter hole, drilled 1-3/4″ deep (NOT SHOWN).
G	Cylinder hole	**BEST Precision**: 1-3/8″ dia-meter, thru door (for 2300, only into mortise cavity) **Von Duprin**: 2″ diameter thru door
H	Lift finger slot	**BEST Precision/Sargent**: 1-1/8″ diameter slot, thru door **Von Duprin**: 3/4″ diameter slot, thru door

Preparing the door

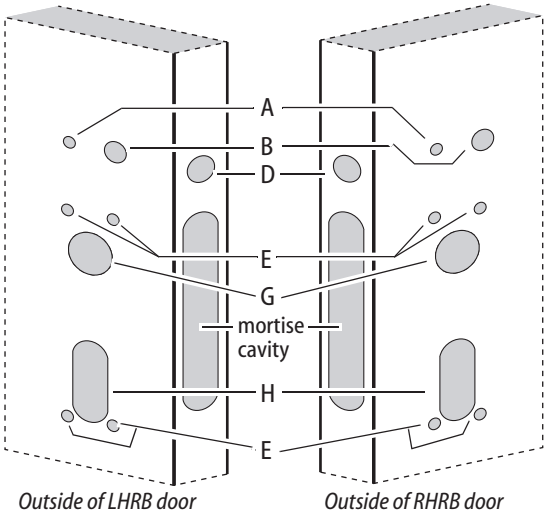


Figure 4 Outside door prep for use with BEST Precision exit hardware, 2300 Series

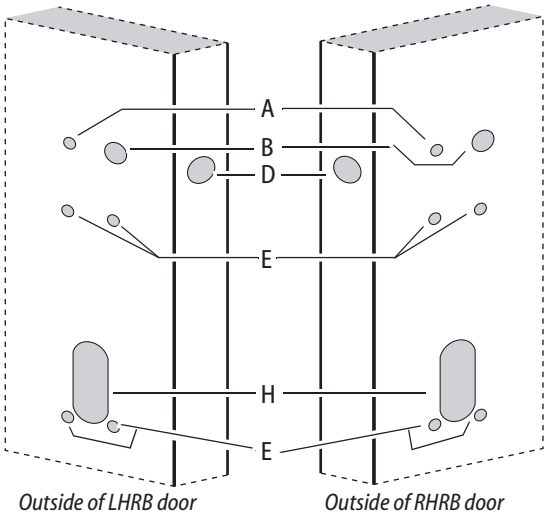


Figure 6 Outside door prep for use with Sargent 8863 exit hardware

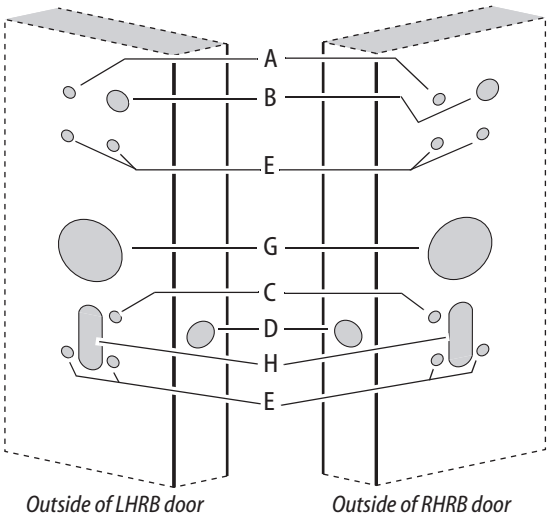


*Figure 5 Outside door prep for use with Von Duprin exit hardware, Rim **with** RQE only*

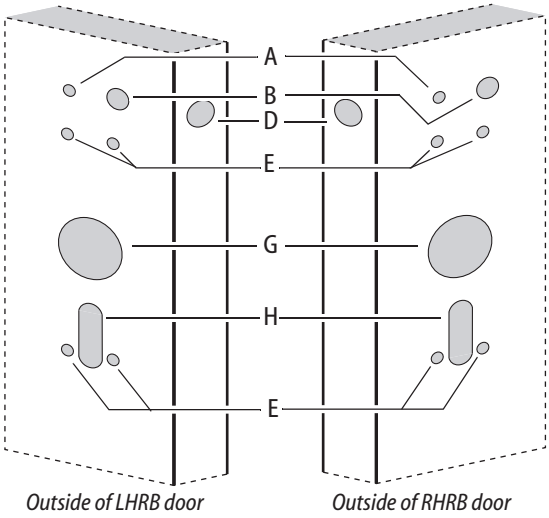


*Figure 7 Outside door prep for use with Von Duprin exit hardware. Use for all Von Duprin vertical rods and rim **without** RQE*

Preparing the door

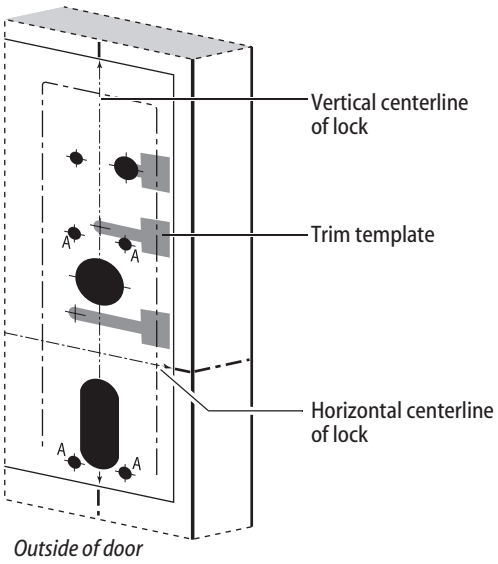


Figure 8 Positioning the trim template, Q08 LHRB shown

3 Position trim template and mark drill points

1 **For new installations**

a Cut the applicable template along the dashed lines.

b Align the horizontal and vertical centerlines marked on the template with the centerlines marked on the ***OUTSIDE*** of the door (from step 1). See Figure 8.

For retrofit installations

Align the mounting holes for the escutcheon and lock stile case shown on the template with the mounting holes already present in the door.

Note: *The outside escutcheon is mounted using the four lock stile case mounting holes ('A' holes); these holes must be 7/16" in diameter and drilled completely through the door.*

2 Tape the template to the ***OUTSIDE*** of the door in the properly aligned position.

3 Center punch the necessary drill points. Refer to the instructions on the template and the figures of the previous step.

4 Mortise for mortise case and faceplate (mortise exit devices only)

Note: *If retrofitting the EXQ Exit Hardware Trim to an existing exit hardware installation, skip this task.*

Mortise the edge of the door for the mortise case and faceplate; follow the instructions provided by the exit hardware manufacturer.

Installing the exit hardware and trim

5 Drill holes

Caution: **Double-check for the correct lock function, hand, and bevel before drilling.**

1 Drill the trim holes that are required for your application; follow the instructions on the trim template and refer to the figures in step 2.

Note 1: *To locate the center of a hole on the opposite side of the door, drill a small pilot hole through the door.*

Note 2: *For holes through a wood door, drill halfway from each side of the door to keep the door from splintering.*

6 Install mortise case (mortise exit devices only)

Install the mortise case in the door; follow the instructions provided by the exit hardware manufacturer.

7 Install door sensing switch

1 Clip off the purple wires and connector and remove.
2 Clip off the connector from the white door sensing harness (with black sleeving) and leave as much wire as possible. See Figure 9. These wires will be butt-spliced to the sensing harness from the trim. See "Route sensor wires" on page 14.
3 Route the door sensing switch wires through the channel and out through the wire routing hole to the exit device side. See Figure 9.
4 Press-fit the door sensing switch into the 1" diameter hole in the door.
5 Mark and drill 1" diameter hole in the frame, aligned with the door position switch (for the magnet).

Note: *For double-door applications, this hole will be into the edge of the opposing door leaf (not the frame).*

6 Press-fit the door sensing magnet into the 1" diameter hole in the frame.

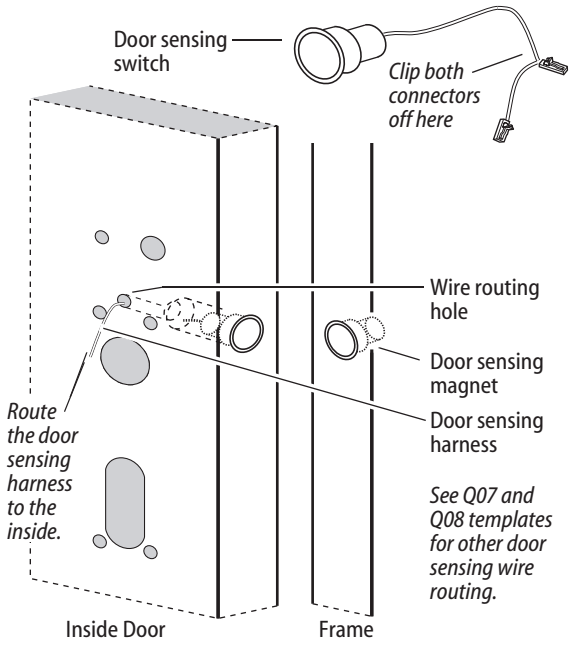


Figure 9 Installing the door sensing switch and magnet, BEST Precision 2100 shown

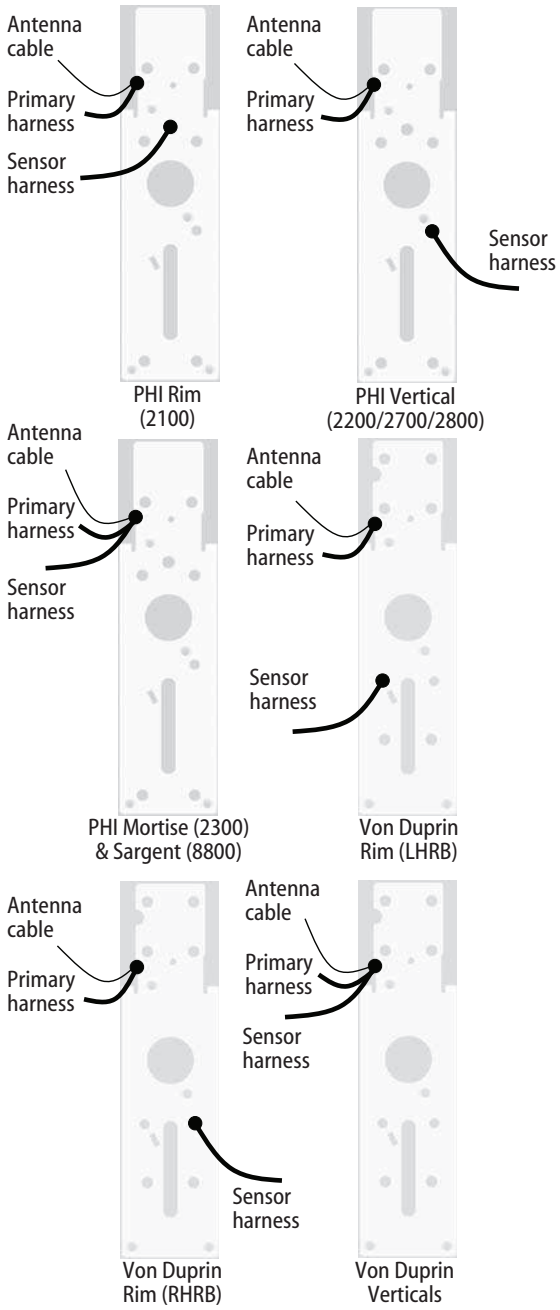


Figure 10 Variations of EXQ Trim rear view

8 Re-route sensor harness (if applicable)

Looking at the back of the trim, compare it to the pictures in Figure 10. If your trim does not match the proper picture, then follow the applicable steps below to re-route the sensor harness.

Installing the exit hardware and trim

1 Carefully peel the black gasket off of the back of the trim. Set it aside to be re-applied later.

2 Remove the backplate from the trim by removing the four screws that attach it.

3 While the gasket and backplate are removed, change the handing of the trim if necessary.

Do so by removing the four threaded guide pins and retaining ring as shown in Figure 11, pulling out and flipping the lever 180 degrees, and then reassembling.

For BEST Precision 2100 devices

4 Re-route the sensor harness out through the alternate wire-routing hole as shown in Figure 12.

5 Reattach the backplate ensuring that the springs are properly seated and wires are not pinched.

6 Reapply the gasket.

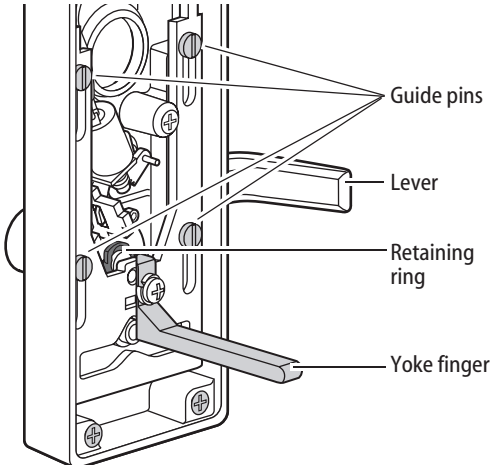


Figure 11 Changing the hand of the trim (if needed)

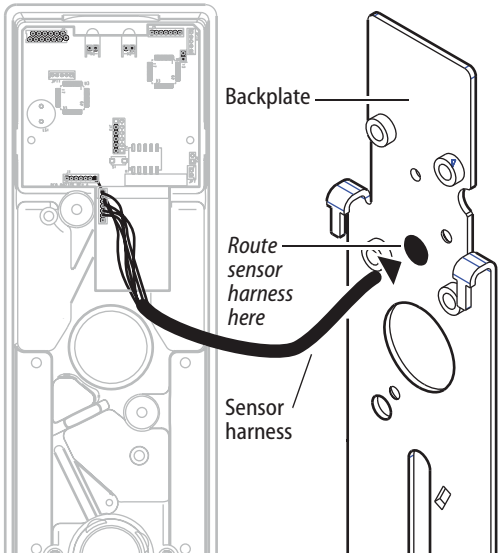


Figure 12 Re-routing the sensor harness for BEST Precision 2100 exit devices

Installing the exit hardware and trim

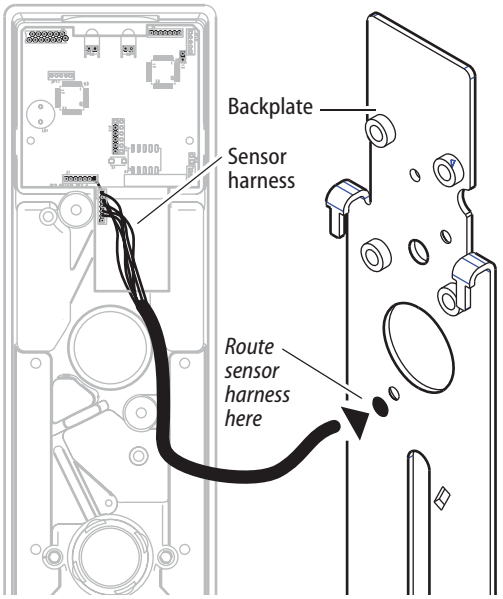


Figure 13 Re-routing the sensor harness for BEST Precision 2200, 2700 and 2800 exit devices

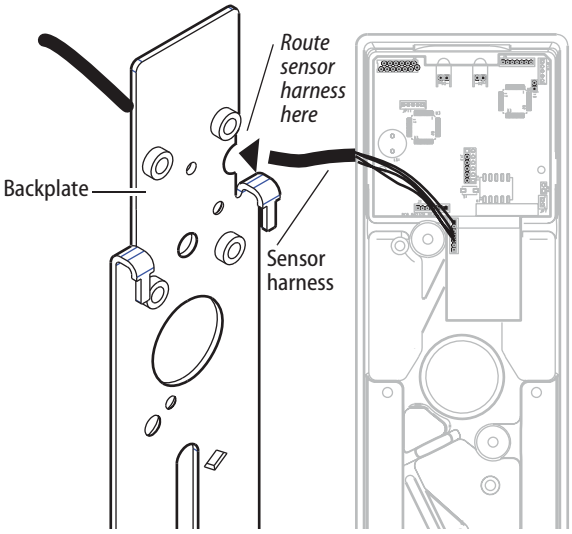


Figure 14 Re-routing the sensor harness for BEST Precision 2300 and Sargent 8800 exit devices

For BEST Precision 2200, 2700 and 2800 devices

4 Re-route the sensor harness around the cylinder hole and around the escutcheon boss, then out through the alternate wire-routing hole as shown in Figure 13.
5 Reattach the backplate ensuring that the springs are properly seated and wires are not pinched.
6 Reapply the gasket.

For BEST Precision 2300 and Sargent 8800 devices

4 Re-route the sensor harness toward the top of the escutcheon to the same area as the battery cable, antenna cable and relay shunts. See Figure 14.
5 Reattach the backplate ensuring that the springs are properly seated and wires are not pinched.
6 Reapply the gasket.

For Von Duprin Rim devices with RQE

4 Re-route the sensor harness around the cylinder hole and around the escutcheon boss, then out through one of the alternate wire-routing holes (based on handing) as shown in Figure 15.
5 Reattach the backplate ensuring that the springs are properly seated and wires are not pinched.
6 Reapply the gasket.

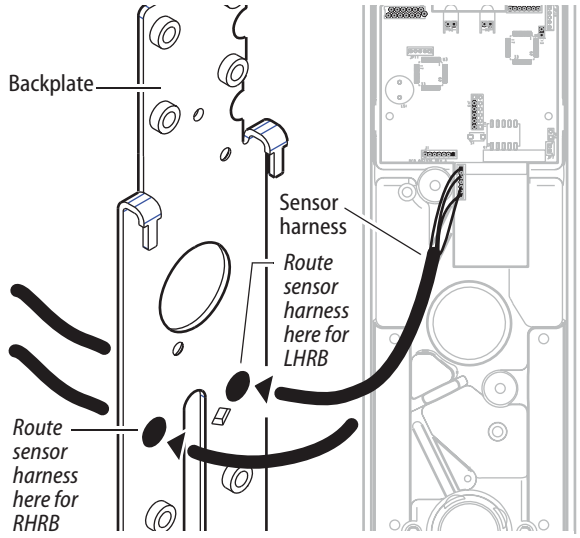


Figure 15 Re-routing the sensor harness for Von Duprin with RQE

Installing the exit hardware and trim

For Von Duprin vertical rod devices and rim without RQE

4 Re-route the sensor harness as shown in Figure 16.

5 Reattach the backplate ensuring that the springs are properly seated and wires are not pinched.

6 Reapply the gasket.

9 Install cylinder (Von Duprin only)

1 To determine the correct spindle length, try the cylinder in the door while holding the escutcheon and lock stile case in place.

Then break off the spindle at the groove where it will engage correctly with the latching mechanism.

If necessary break off the mounting screws as shown in Figure 17.

2 From the front of the escutcheon, insert the cylinder into the cylinder opening.

3 Holding the cylinder in position in the escutcheon, insert the cylinder mounting sleeve through the back of the escutcheon, over the cylinder.

4 Orient the cylinder and clamp plate as shown in Figure 17. From the back of the escutcheon, secure the cylinder and mounting sleeve using the clamp plate and mounting screws.

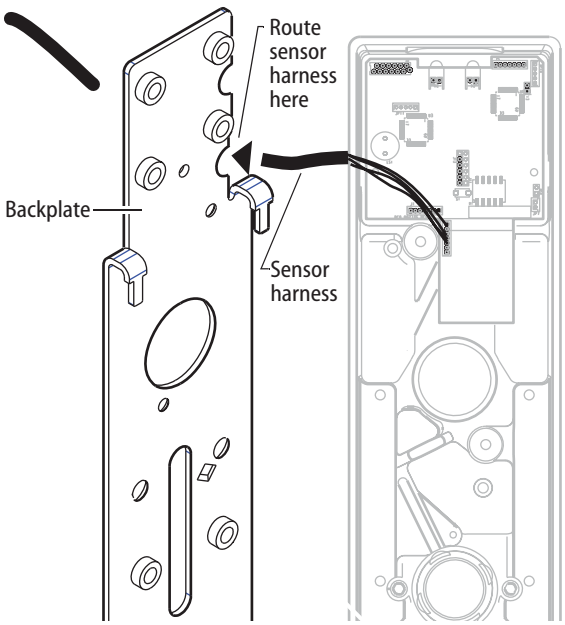


Figure 16 Re-routing the sensor harness for Von Duprin vertical rod and rim without RQE exit devices

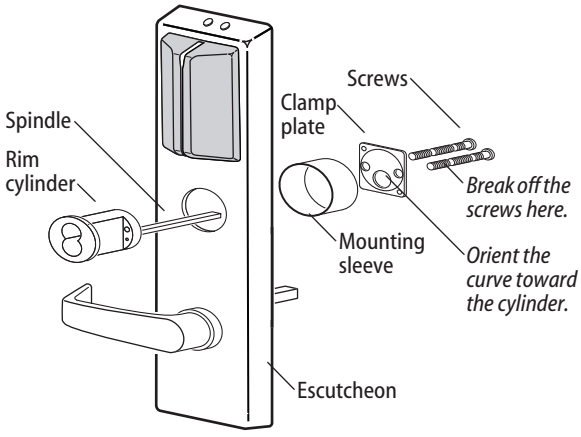


Figure 17 Installing the cylinder for Von Duprin rim and rod exit devices

Installing the exit hardware and trim

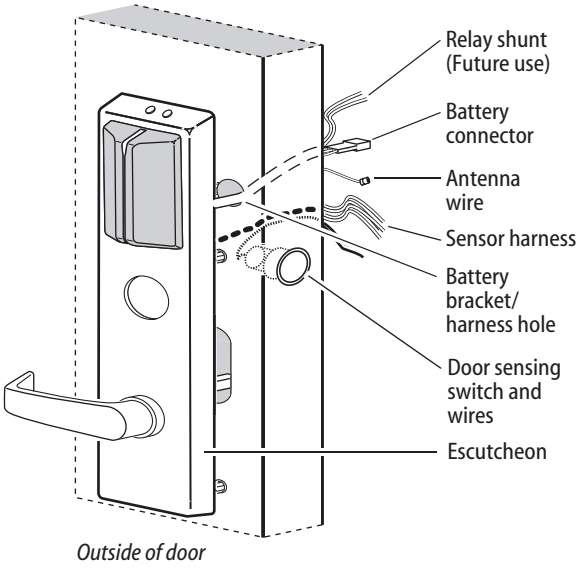


Figure 18 Feeding the wires through the door

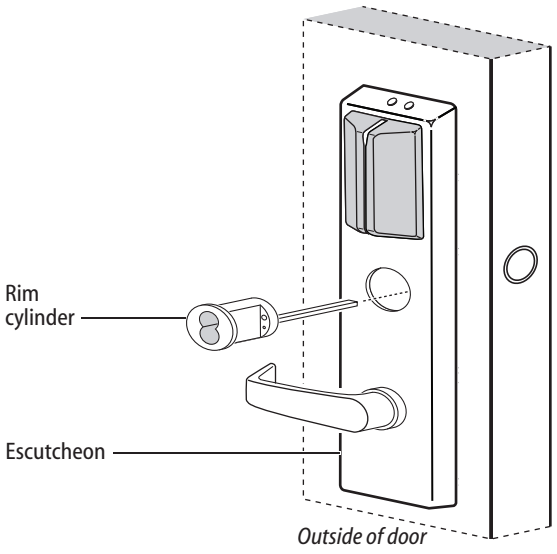


Figure 19 Installing the cylinder

10 Route wire harnesses and position escutcheon

1 From the outside of the door, feed the antenna wire and battery connector (with relay shunt) through the battery bracket/harness hole as shown in Figure 18.

Caution 1: **When routing the connectors, make sure the harnesses are not routed across any sharp edges or over any surface that could damage their sleeving or wire insulation.**

Caution 2: **Do not strain the wire harness either by pulling too hard on it or by dangling the escutcheon from it.**

2 Route the sensor harness through the door (same hole as the door sensing wires).

3 Rest the escutcheon on the door by inserting the trim studs into the mounting holes.

11 Install cylinder (BEST Precision devices)

For rim and vertical rod exit device installations (rim cylinder)

1 To determine the correct spindle length, try the cylinder in the door while holding the escutcheon and lock stile case in place.

Then break off the spindle at the groove where it will engage correctly with the latching mechanism.

Break off the mounting screws at the groove where they will secure the clamp plate to the cylinder.

2 Insert the cylinder through the cylinder opening in the escutcheon and into the door as shown in Figure 19.

3 Orient the cylinder and clamp plate as shown in Figure 20. From the inside of the door, secure the cylinder using the clamp plate and mounting screws.

Installing the exit hardware and trim

For mortise exit device installations (mortise cylinder)

1 **For doors less than 2″ in thickness**, place the cylinder ring provided on the cylinder.

2 Rotate the cylinder cam to the 12 o'clock position, as shown in Figure 21.

3 Using a cylinder wrench (ED211), insert the cylinder through the cylinder opening in the escutcheon and screw the cylinder into the mortise case. Make sure that the figure-8 hole is in the 12 o'clock position.

Caution: **Do not screw the cylinder in too tightly. Doing so may cause users to be locked out.**

12 Install exit hardware and secure escutcheon

For BEST Precision 2200, 2700 and 2800 exit devices only

- Drill a 5/16″ hole through the front part of the chassis as shown in Figure 22. (This hole is used to pass the sensor harness and door position switch wires into the chassis area.)

For all exit devices

1 Make any adjustments to the exit hardware necessary for compatibility with lever function outside trim.

2 Install the exit hardware (lock stile case, touch bar assembly, latches and rods [if applicable], and related hardware); follow the instructions provided by the exit hardware manufacturer.

Note: *The escutcheon is secured on the outside of the door by the screws used to mount the lock stile case on the inside of the door.*

Caution: **When securing the escutcheon, make sure that it does not pinch any wires.**

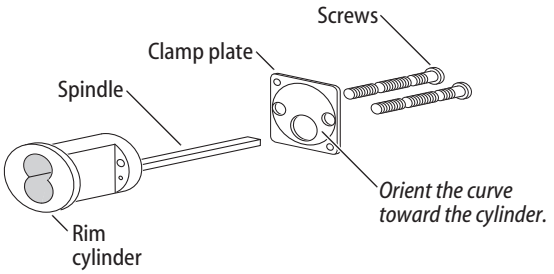


Figure 20 Rim cylinder components

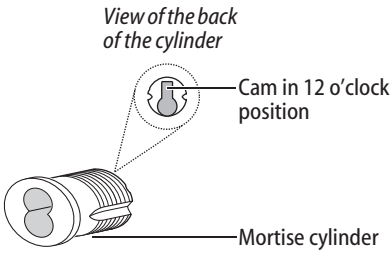


Figure 21 Mortise cylinder components

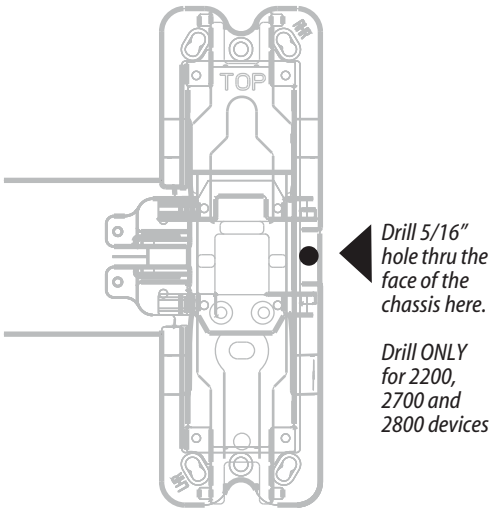


Figure 22 Drilling 5/16″ hole for BEST Precision 2200, 2700, and 2800 exit devices only

Installing the exit hardware and trim

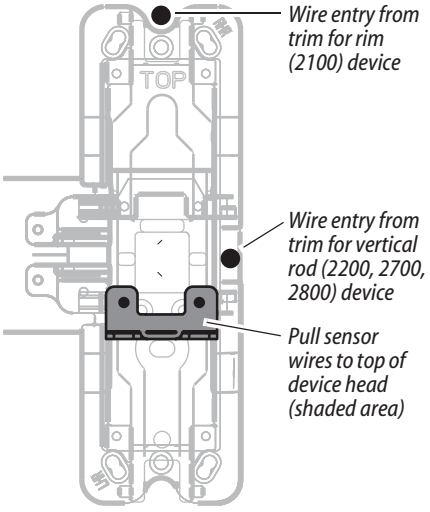


Figure 23 Pulling sensor harnesses to the top of the device head

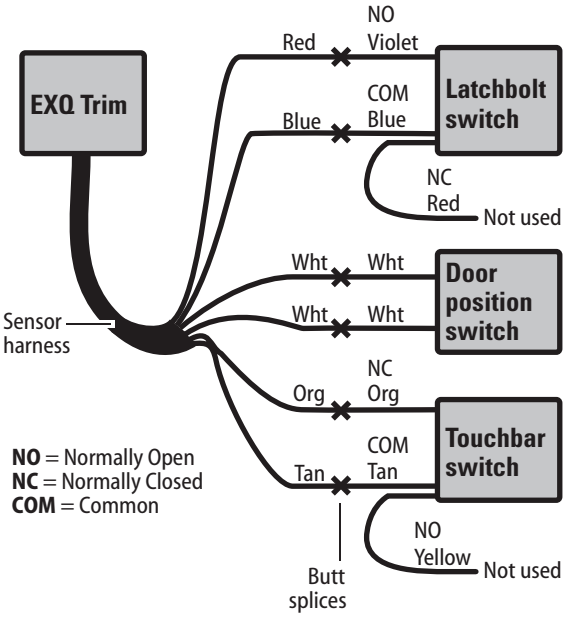


Figure 24 Schematic diagram for connecting BEST Precision sensor harness wires

13 Route sensor wires

Use the following table to determine sensing wire functions:

Wire function	Colors	No. of wires
Touchbar monitoring (RQE)	Orange and tan	2
Door sensing	White	2
Latchbolt sensing	Red and blue	2

1 Pull wires from the sensor harness, door position switch, latchbolt switch, and touchbar switch to the top of the device head as shown in Figure 23.

Note: *For BEST Precision 2300, Sargent 8800, or any Von Duprin application without RQE, pull the door position switch and sensor harness wires into the battery bracket area rather than the device head.*

Note: *For Von Duprin applications with RQE, touchbar switch wires must be re-routed into the device head in such a way as to avoid any pinching or contact with moving parts. The sensor harness can be routed into the head area through any suitable hole in the chassis.*

2 Cut the wires to the appropriate length (that is, remove the excess to leave minimal slack after the spliced connections).

3 Strip the wire ends for connection using the butt-splices.

4 Make wire connections as detailed in Figure 24 or Figure 25 using the butt-splices (provided).

Note: *For Sargent devices, connect the door position switch to the two white sensor harness wires.*

Note: *In the case of unused wires, be sure to cover the ends with electrical tape.*

Installing the exit hardware and trim

5 Make sure to route and dress the wires so that they do not interfere with any moving parts.

6 Tape the wires to the device head (some tape is provided).

Note: *For BEST Precision 2200, 2700, and 2800 exit devices, use cable ties in addition to the tape, to hold wires as shown in Figure 26.*

7 Install the case cover.

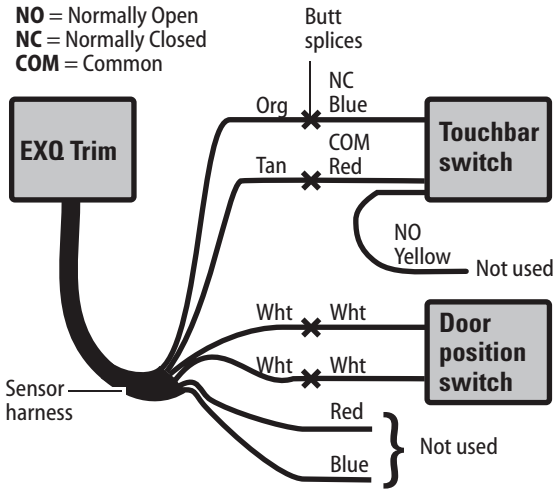


Figure 25 Schematic diagram for connecting Von Duprin sensor harness wires

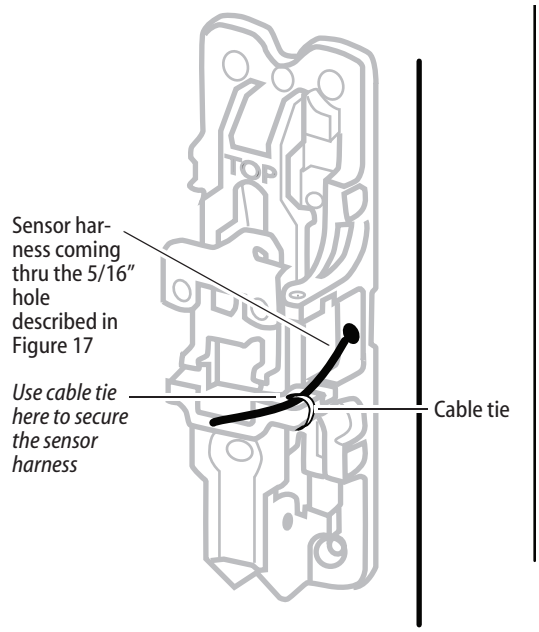


Figure 26 Using cable ties to hold wires for BEST Precision 2200, 2700, and 2800 exit devices

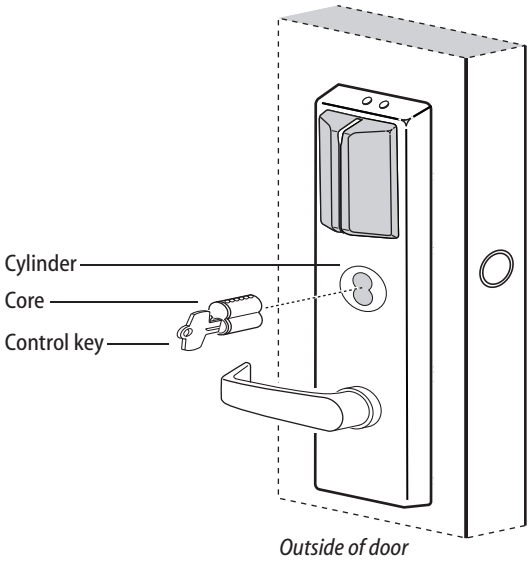


Figure 27 Installing the core

14 Install core

1 Insert the control key into the core and rotate the key 15 degrees to the right.
2 With the control key in the core, insert the core into the cylinder as shown in Figure 27.
3 Rotate the control key 15 degrees to the left and withdraw the key.

Caution: **The control key can be used to remove cores and to access doors. Provide adequate security for the control key.**

15 Install mortise case faceplate (mortise exit devices only)

1 Secure the mortise case faceplate to the mortise case; follow the instructions provided by the exit hardware manufacturer.
2 Check the lock for proper operation.

16 Install strike(s)

Note: *If retrofitting the trim to an existing exit hardware installation, skip this task.*

1 Install the strike(s) in the door frame or door stop; follow the instructions provided by the exit hardware manufacturer.
2 Check the lock for proper alignment between the strike(s) and latch(es).

Completing the installation

17 Install battery bracket on door

1 Position the battery bracket on the inside of the door as shown in Figure 28.

Note: *If installing with a surface rod exit device, the battery bracket is mounted over the upper rod.*

2 Secure the battery bracket to the door using two of the mounting screws provided.

Note: *For doors less than 2″ in thickness, use the 1 1/4″ screws. For doors 2″ or greater, use the 1 3/4″ screws.*

Caution: **When routing the wire harness, make sure the wires are not routed across any sharp edges or over any surface that could damage their sleeving or wire insulation. Keep away from any moving parts.**

3 Tape all wires to the bracket using the tape provided.

Note: *For BEST Precision 2300, Sargent 8800, or any Von Duprin exit device without RQE, sensor harness and door position switch wires will also be run into this area of the battery bracket.*

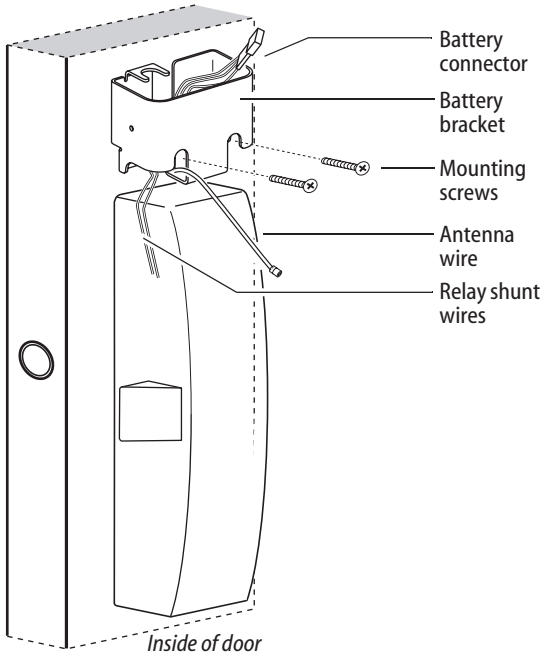


Figure 28 Installing the battery bracket on the door

Completing the installation

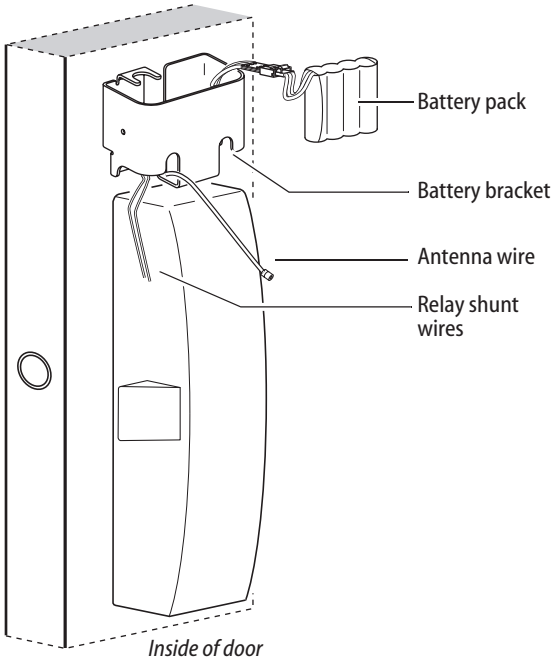


Figure 29 Connecting the battery pack

18 Install battery pack in bracket

1 Connect the battery pack to the battery connector on the wire harness as shown in Figure 29.

Caution: **When connecting the battery pack, make sure:**

— **there are no loose wire connections where the wires are inserted into the connectors**
— **the connectors are firmly mated.**

2 Place the battery pack in the holder inside the battery bracket and dress the wire harness inside the bracket.

Caution: **The battery pack fit will be snug. Make sure you do not damage the sleeving on the battery pack. Doing so may cause the batteries to drain.**

3 **If installing with a surface vertical rod device**, dress the wire harness inside the bracket to the left of the rod so that the harness will not interfere with the movement of the rods.

We recommend that you loosely coil the harness and use a cable tie to secure the coil. To avoid damaging the harness, do not put any sharp bends in it or flex it close to the connectors.

Caution: **Failure to dress the wire harness away from the rod could damage the wire harness, causing the lock's electronics to not work properly.**

Completing the installation

19 Install battery/antenna cover

1 **If installing with a surface vertical rod exit device**, carefully use a razor blade to remove the knockouts for the rod from the battery cover. See Figure 30.

2 Connect the antenna to its mating connector.

3 Coil the antenna wire carefully inside the battery cover.

Caution: **Carefully bend, but do not twist or kink the antenna wire. Doing so may significantly reduce or completely interrupt signal transmission.**

4 **Making sure that the battery/antenna cover does not pinch any wires**, place the battery/antenna cover over the bracket and battery.

5 Secure the battery cover with the provided self-tapping screws.

Caution: **Tighten screws firmly but do not overtighten. Over-tightening may strip screw holes or crack the cover.**

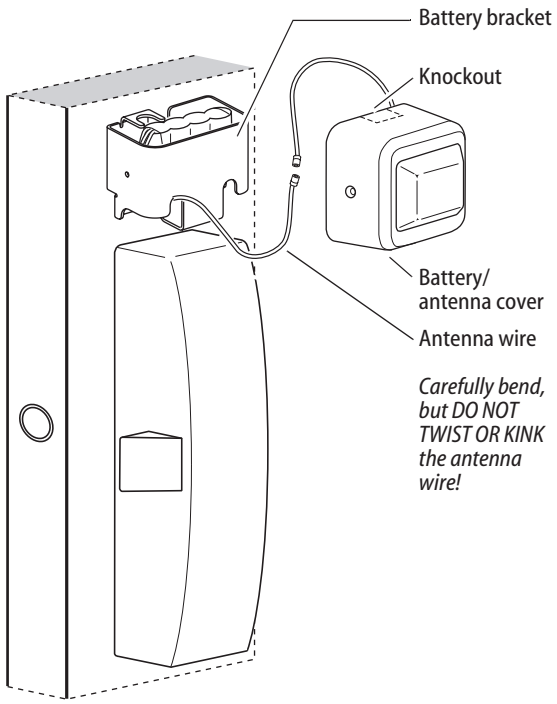


Figure 30 Installing the battery cover over the battery bracket and connecting the antenna

Completing the installation

20 Test lock

For EXQ Locks with keypad only:

To test the lock for proper operation before the lock is programmed, follow these instructions:

1 Press **1234**.

2 Press **#**.

The green light flashes and the locking mechanism unlocks.

3 Turn the lever and open the door.

For all other locks:

To test the lock for proper operation before the lock is programmed, use the temporary operator card that came with the lock. This card is for temporary use only. After permanent cards have been programmed for the lock, the temporary card should be deleted.

1 Use the temporary operator card to activate the lock.

2 Use the temporary operator card to access the lock.

The green light flashes and the locking mechanism unlocks.

3 Turn the lever or knob and open the door.

4 With the door closed, insert and turn the key to unlatch the door.

If the mechanism doesn't unlock, refer to the following table.

LEDs	Sounder	You should
Single red flash	1 short tone	Use the card at a moderate speed.
Single red flash	3 short tones	Use the temporary operator card provided with the lock. **or** Perform a door reset to restore to the factory default settings (the lock may already be associated/programmed)
Alternating red and green flashes	none	Check the motor connection.
none	none	Check the battery connection.

***Important*: When the trim and exit hardware installation is complete, perform all testing specified by the exit hardware manufacturer.**

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