BEST

dormakaba Group



40H SERIES

SERVICE MANUAL

HEAVY DUTY MORTISE LOCKS

CREDITS/COPYRIGHT

Copyright ©2021 dormakaba USA Inc. All rights reserved.

Information in this document is subject to change without notice and does not represent a commitment on the part of dormakaba USA Inc. The software described in this document are furnished under a license agreement or nondisclosure agreement.

This publication is intended to be an accurate description and set of instructions pertaining to its subject matter. However, as with any publication of this complexity, errors or omissions are possible. Please call dormakaba USA Inc. at 1-800-392-5209 if you see any errors or have any questions. No part of this manual and/or databases may be reproduced or transmitted in any form or by any means, electronic or mechanical, including photocopying, recording, or information storage and retrieval systems, for any purpose, without the express written permission of dormakaba USA Inc.

This document is distributed as is, without warranty of any kind, either express or implied, respecting the contents of this book, including but not limited to implied warranties for the publication's quality, performance, merchantability, or fitness for any particular purpose. Neither dormakaba USA Inc., nor its dealers or distributors shall be liable to the user or any other person or entity with respect to any liability, loss, or damage caused or alleged to be caused directly or indirectly by this publication.

Life Safety Code is a registered trademark of the National Fire Protection Association.

Written and designed at
dormakaba Americas Headquarters
6161 East 75th Street
Indianapolis, IN 46250

T81602 Rev C 1922545 ER-7991-6 August 2021

CONTENTS

FIGURES 1–IX

GETTING STARTED 1–1

Introduction 1–1

Certifications and standards 1–1

45H & 47H overview 1–2

Lock characteristics 1–2

Lock dimensions 1–2

45HW & 47HW overview 1–4

Lock characteristics 1–4

Lock dimensions 1–4

48H & 49H overview 1–6

Lock characteristics 1–6

Lock dimensions 1–6

Documentation package 1–8

Technical support 1–8

Support services 1–8

Telephone technical support 1–8

INTRODUCING THE 40H LOCK 2–1

Overview 2–1

Ways to order 2–1

- Function-specific locks 2–1
- Universal locks 2–2
- Three-part locks 2–2

The advantage of kits 2–2

Working with universal functions 2–2

Working with trim kits 2–3

Trim one side locks 2–5

LOCK FUNCTIONS 3–1

45H & 47H Functions by ANSI designation & lock function quick reference 3–2

45HW & 47HW lock function quick reference 3–3

Function descriptions 3–4

- Single-keyed functions 3–5
- Double-keyed functions 3–8
- Deadlocked functions 3–10
- Non-keyed functions 3–11
- Special functions 3–13
- Electrified functions 3–14

MORTISE CASE PARTS 4–1

A function case—office lock 4–2

AB function case—office lock 4–14

AD function case—deadlock 4–34

AT function case—office lock 4–4

B function case—entrance lock 4–16

B5 function case—entrance lock 4–22

B7 Function case—entrance lock 4–22

BA function case—entrance lock 4–18

BW function case—entrance lock 4–20

C function case—public entrance lock 4–4

CHB function case—holdback lock 4–12

D function case—storeroom lock 4–4

DEL function case—Electrically locked fail safe lock 4–38

DEU function case—Electrically unlocked fail secure 4–40

G function case—communicating lock 4–22

H function case—hotel lock 4–24

HJ function case—hotel lock 4–24

IND function case—intruder lock 4–26

INL function case—intruder lock 4–4
L function case—privacy lock 4–28
LB function case—privacy lock 4–30
LEL function case—Electrically locked fail safe lock 4–58
LEU function case—Electrically unlocked fail secure 4–60
LT function case—privacy lock 4–6
N function case—passage lock 4–8
NX function case—exit lock 4–10
NXEL function case—electrically locked fail safe lock 4–46
NXEU function case—electrically unlocked fail secure lock 4–48
R function case—classroom lock 4–4
RD function case—classroom deadlock 4–36
RHB function case—classroom holdback lock 4–12
S function case—storeroom lock 4–18
T function case—dormitory lock 4–26
TA function case—dormitory lock 4–32
TD function case—dormitory lock 4–24
TDEL function case—Electrically locked fail safe lock 4–50
TDEU function case—Electrically unlocked fail secure 4–52
TWEL function case—Electrically locked fail safe lock 4–54
TWEU function case—Electrically unlocked fail secure 4–56
W function case—storeroom lock 4–4
WD function case—deadlock 4–34
WEL function case—Electrically unlocked fail safe 4–42
WEU function case—Electrically unlocked fail secure 4–44
XR function case—classroom lock 4–4
YD function case—deadlock 4–34
ZD function case—storeroom lock 4–4
Case only locks 4–62
How to order standard mortise locks 4–62
How to order electrified mortise locks 4–63
Case only components 4–64

TRIM PARTS 5–1

Outside trim kits 5–2
How to order 5–2
Kit components 5–3
Inside trim kits 5–6
How to order 5–6
Kit components 5–7

Strike packages 5–10
How to order 5–10
Strike packages 5–11
Lever sets 5–12
How to order 5–12
Lever sets 5–13
Faceplate kits 5–15
How to order 5–15
Faceplate kits 5–15
Replacement spindles 5–16
How to order 5–16
Replacement spindles 5–17
Screw kits 5–18
How to order 5–18
Screw kits 5–19
Cylinders and cams 5–20
How to order 5–20
Cylinders by door thickness 5–21
Cylinder ring lengths 5–21
Escutcheon assemblies 5–23
J trim outside escutcheons 5–23
J trim inside escutcheons 5–24
M & N trim outside escutcheons 5–25
M & N trim inside escutcheons 5–26
Roses and rose rings 5–27
Dummy trim 5–27
Visual indicator trim 5–28
Service equipment 5–29
Driver bits 5–30
Accessories for electrified locks 5–31

SERVICE AND MAINTENANCE 6–1

Changing the hand 6–2
Changing hand quick reference 6–2
Changing handing for the mortise case 6–2
To rotate the latchbolt: 6–2
To change the position of the hub toggles: 6–3
Changing the function for universal cases 6–5
Changing the function for UNR cases 6–5
To adjust the shuttle screw positions: 6–5
To change the position of the hub toggles: 6–6
Changing the function for UNAB cases 6–6
Changing the function for UNT cases 6–6
Troubleshooting 6–7

48H & 49H LOCKS 7–1

Function quick reference 7–1
Function descriptions 7–2
48H & 49H Mortise case parts 7–2
K function case—cylinder deadlock 7–3
L function case—cylinder deadlock 7–3
M function case—cylinder deadlock 7–3
R function case—classroom deadlock 7–4
48H Trim parts 7–5
49H High security deadbolt trim parts 7–6
Strikes and strike boxes 7–7
Troubleshooting 7–8

GLOSSARY A–1

INSTALLATION INSTRUCTIONS B–1

INDEX C–1

FIGURES

GETTING STARTED

45H & 47H mortise case and strike dimensions 1–3
45HW & 47HW mortise case and strike dimensions 1–5
48H & 49H mortise case and strike dimensions 1–7

LOCK FUNCTIONS

Understanding function drawings 3–4

MORTISE CASE PARTS

A function case exploded diagram 4–2
AT, C, D, INL, R, W, ZD, XR function case exploded diagram 4–4
LT function case exploded diagram 4–6
N function case exploded diagram 4–8
NX function case exploded diagram 4–10
CHB, RHB function case exploded diagram 4–12
AB function case exploded diagram 4–14
B function case exploded diagram 4–16
BA, S function case exploded diagram 4–18
BW function case exploded diagram 4–20
G, B5, B7 function case exploded diagram 4–22
H, HJ, TD function case exploded diagram 4–24
IND, T function case exploded diagram 4–26
L function case exploded diagram 4–28
LB function case exploded diagram 4–30
TA function case exploded diagram 4–32
AD, WD, YD function case exploded diagram 4–34

RD function case exploded diagram 4–36
DEL function case exploded diagram 4–38
DEU function case exploded diagram 4–40
WEL function case exploded diagram 4–42
WEU function case exploded diagram 4–44
NXEL function case exploded diagram 4–46
NXEU function case exploded diagram 4–48
TDEL function case exploded diagram 4–50
TDEU function case exploded diagram 4–52
TWEL function case exploded diagram 4–54
TWEU function case exploded diagram 4–56
LEL function case exploded diagram 4–58
LEU function case exploded diagram 4–60
Case only lock – faceplate and case for AB function shown 4–64

Trim Parts

OS1 – Outside lever only 5–4
OS2 – Outside lever & cylinder 5–4
OS3 – Outside lever & access plate 5–5
OS4 – Outside cylinder only 5–5
IS1 – Inside lever only 5–8
IS2 – Inside lever & thumb turn 5–8
IS3 – Inside lever & cylinder 5–8
IS4 – Inside cylinder only 5–9
IS5 – Inside thumb turn only 5–9
Lip to center dimension 5–10
Strike kit 1– Universal strike package 5–11
Strike kit 4– Strike box only 5–11
Strike kit 1– Universal strike package with flat-lipped option 5–11
Strike kit 5– Magnetic strike box only 5–11
Solid tube / return (style 3) 5–14
Knob (style 4) 5–14
Curved return (style 14) 5–14
Contour/angle return (style 15) 5–14
Curve / no return (style 16) 5–14
Faceplate kits 5–15
Spindle kit 2 – Standard replacement spindle 5–17
Spindle kit 4 – Hook replacement spindle 5–17
Screw kit components 5–19

Cylinders 5–21
Cylinder rings 5–22
Cylinder cams 5–22
Outside J trim escutcheons 5–23
Inside J trim escutcheons 5–24
Outside M & N trim escutcheons 5–25
Inside M & N trim escutcheons 5–26
Roses & rose rings 5–27
Dummy trim parts 5–27
Keyed visual indicator trim 5–28
Privacy visual indicator trim 5–28
Service equipment 5–29
Driver bits 5–30
Accessories for electrified locks 5–31

Service and Maintenance

Explanation of the hand and bevel of the door 6–2
Rotating the latchbolt 6–3
Positioning the hub toggles 6–4
Positioning the shuttle screws and stop screw 6–6

48H & 49H Locks

Understanding function drawings 7–2
K, L, M function case 7–3
R function case 7–4
Deadbolt trim 7–5
High security deadbolt trim 7–6
Strikes and strike box 7–7

1 GETTING STARTED

INTRODUCTION

The *40H Series Service Manual* contains essential information to help you maintain your 40H Series Locks.

CERTIFICATIONS AND STANDARDS

- The 40H Series Locks are listed by Underwriters Laboratories (U.S. and Canada) for use on 3 hr., A label doors.
- The 40H Series Locks with deadbolt are certified by Miami-Dade County Code Compliance Office for use in applications requiring a design pressure rating of ± 100 PSF for single doors and ± 50 PSF for double door openings.
- The 40H Series Locks without deadbolt are certified by Miami-Dade County Code Compliance Office for use in applications requiring a design pressure rating of ± 60 PSF for single doors and ± 35 PSF for double door openings.
- The 45HW and 47HW Locks are UL listed for GYQS electrically controlled single point locks or latches.
- The 45HW and 47HW Locks are approved by the California State Fire Marshall (CSFM) pursuant to section 13144.1 of the California Health and Safety Board.

- The 45HW and 47HW locks are approved by the city of New York Board of Standards and Appeals under calendar number 49-88-SA. See CSFM listing number 4136-1175:101.
- 45H Locks meet or exceed ANSI A156.13, Series 1000, Grade 1 Operational and Grade 2 Security standards, when used with the 1CD core.
- 47H Locks meet or exceed ANSI A156.13, Series 1000, Grade 1 Operational and Grade 1 Security standards.
- 47H Locks conform to UL437 Standard for Key Locks, referencing Door Locks.
- 49H Locks conform to ANSI 156.5, Grade 1 standards.
- The 1E7J4 cylinder used in 47H Locks conforms to UL437 Standard for Key Locks, referencing High Security Cylinders, and is listed for Canada as well as the United States.
- The lock case and faceplate dimensions fit the standard door preparation as specified in ANSI A115.1.
- The strike fits the standard door frame cutout as specified in ANSI A115.1.
- Lever styles 3, 14 and 15 conform to California Administrative Code Title 19 and Title 24.

45H & 47H OVERVIEW

Lock characteristics

All 45H & 47H Mortise Locks have the following characteristics:

Feature	Dimensions
Case size	5 7/8″ × 4 1/4″ × 1″
Backset	2 3/4″
Door thickness range	1 3/4″ standard–up to 5″†

†. All mortise functions, except trim one side only functions, can be installed on 5″ thick doors if the mortise is centered in the door. Trim one-side-only functions can be installed on doors up to 2 1/2″ thick if the mortise is centered in the door.

Lock dimensions

The following diagram shows the dimensions for the 45H & 47H mortise case and strike.

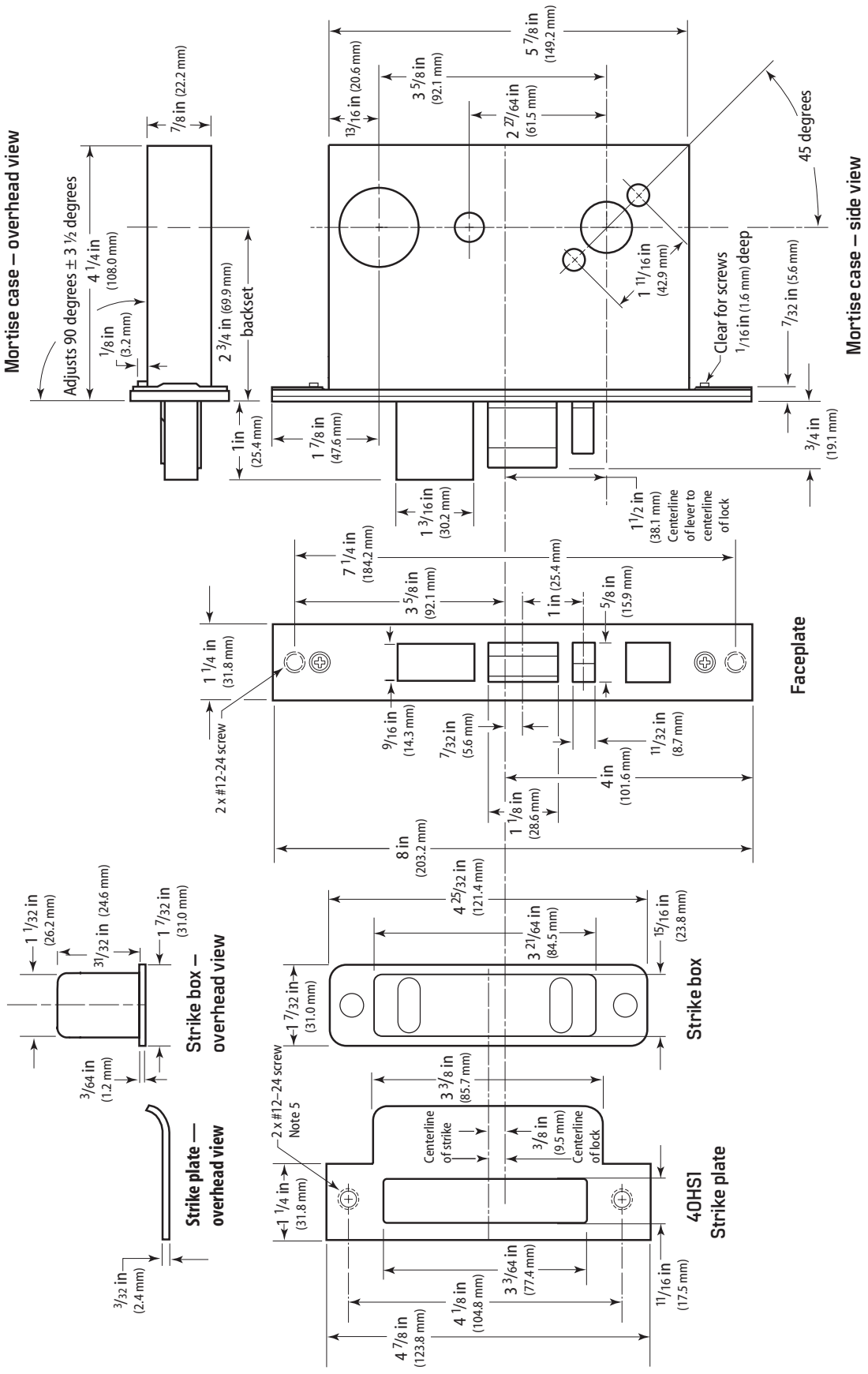


Figure 1.1 45H & 47H mortise case and strike dimensions

45HW & 47HW OVERVIEW

Lock characteristics

All 45HW & 47HW Mortise Locks have the following characteristics:

Feature	Dimensions
Case size	5 7/8″ × 4 1/4″ × 1″
Backset	2 3/4″
Door thickness range	1 3/4″ standard–up to 5″†

†. All mortise functions, except trim one side only functions, can be installed on 5″ thick doors if the mortise is centered in the door. Trim one-side-only functions can be installed on doors up to 2 1/2″ thick if the mortise is centered in the door.

Lock dimensions

The following diagram shows the dimensions for the 45HW & 47HW mortise case and strike.

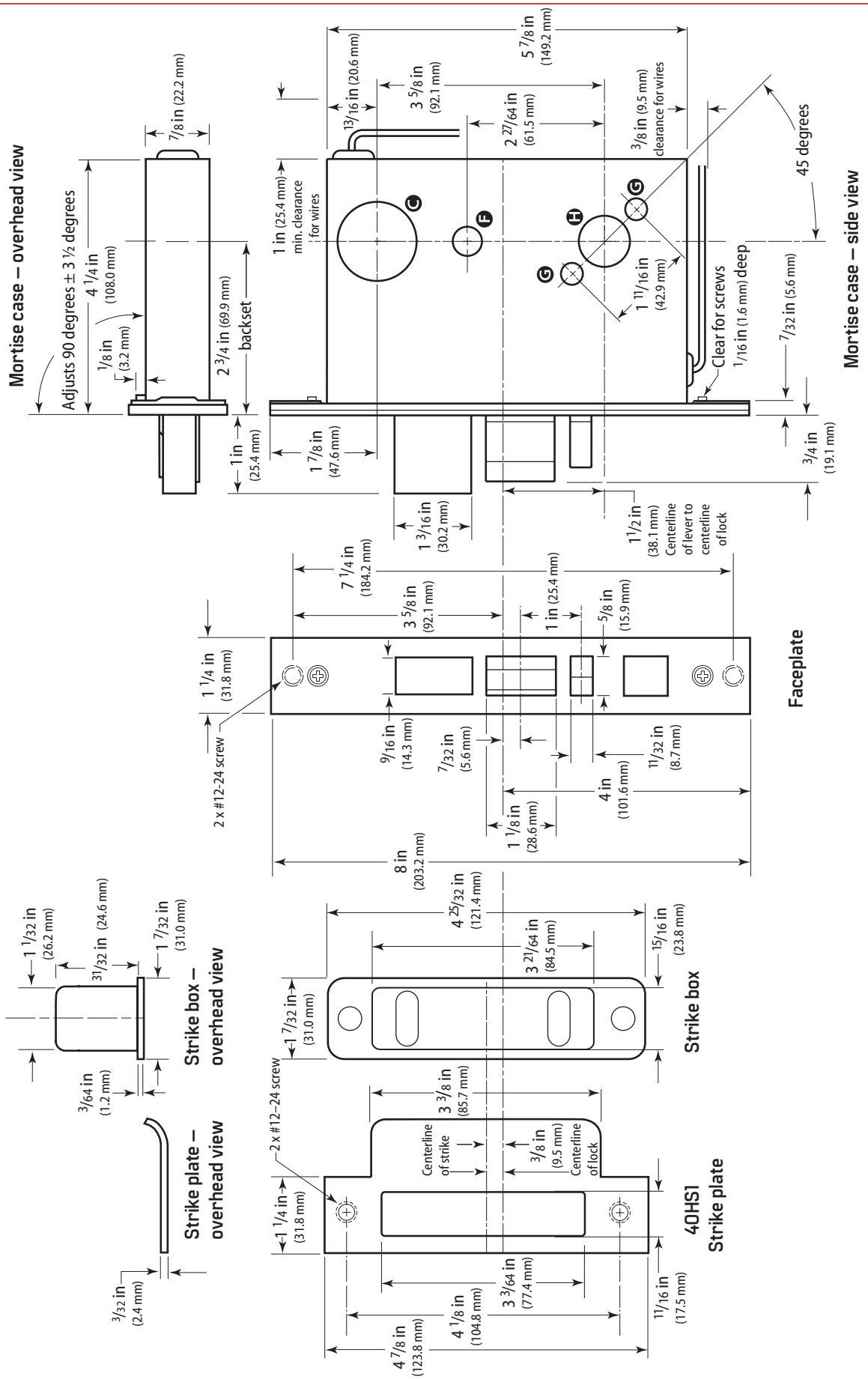


Figure 1.2 45HW & 47HW mortise case and strike dimensions

48H & 49H OVERVIEW

Lock characteristics

All 48H & 49H Mortise Locks have the following characteristics:

Feature	Dimensions
Case size	4 3/16″ × 3 5/8″ × 1″
Backset	2 3/4″
Door thickness range	1 3/4″ standard–up to 5″†

†. All mortise functions, except R and trim one side only functions, can be installed on 5″ thick doors if the mortise is centered in the door.

Lock dimensions

The following diagram shows the dimensions of the 48H & 49H mortise case and strike.

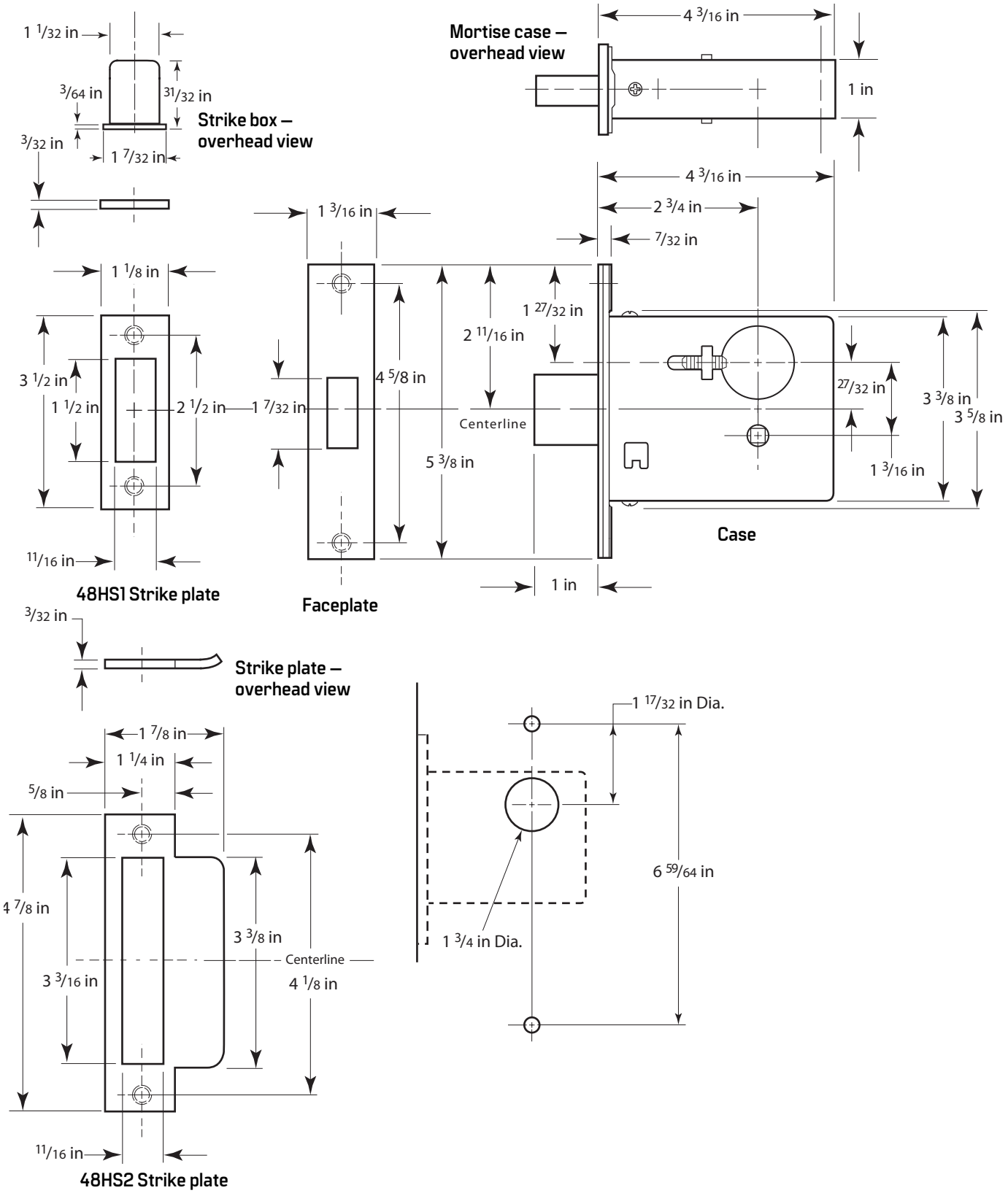


Figure 1.3 48H & 49H mortise case and strike dimensions

DOCUMENTATION PACKAGE

The following documentation is available to help you with the installation, start-up, and maintenance of your 40H Series Locks.

The installation and assembly instructions also can be ordered separately:

Document Title	Doc. No.
Installation Instructions for 45H & 47H Mortise Locks	T81162
Installation Instructions for 45HW & 47HW Electrified Mortise Locks	T81612
Installation Instructions for 48H & 49H Mortise Locks	T81175
Installation Instructions for the Mortise Lock Cylinder	T61972

The templates required for lock installations also can be ordered separately:

Document Title	Doc. No.
H15 Template; Installation Template for 45H & 47H and 45HW & 47HW Mortise Locks	T81163
H16 Template; Installation Specifications for 45H & 47H Mortise Locks	T81166
H18 Template; Installation Template for 48H & 49H Mortise Locks	T81184
H17 Template; Installation Specifications for 48H & 49H Mortise Locks	T81183
H19 Template; Installation Specifications for 45HW & 47HW Electrified Mortise Locks	T81611
E01 Template for 1E Cylinders	T61965
E06 Template for 1E7J4 and 1E7K4 Cylinders	T61970

TECHNICAL SUPPORT

Support services

When you have a problem with a 40H Series Lock, your first resource for help is the *40H Series Service Manual*. If you cannot find a satisfactory answer, contact your local dormakaba Representative.

Telephone technical support

A factory-trained Certified Product Specialist (CPS) is available in your area whenever you need help. Before you call, however, please make sure you are where the hardware is located, 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 fix the problem.

dormakaba USA Inc. representatives provide telephone technical support for all 40H Series products. You may locate the representative nearest you 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.

2 Introducing the 40H Lock

Overview

The 40H Series Lock was designed to be easy to use, while at the same time maintaining the strength, durability, and dependability expected of a BEST mortise lock. In addition to the ability to quickly change the lock handing, the universal case design of the 40H Series Lock provides the ability to reconfigure a lock into many different functions easily and quickly, often by rearranging existing parts without opening the lock case. The 40H Series Lock lets you postpone decisions about how the lock will be configured all the way up to the point of installation, making it one of the most flexible and user-friendly mortise locks available.

Ways to order

There are three ways to order 40H Series Locks—function-specific locks, universal locks, and three-part locks.

Function-specific locks

If you know exactly what you need in a mortise lock and are confident these needs will not change, order your 40H Series Locks in the traditional manner by specifying the exact function, trim, finish, and handing. The lock will be built to work exactly as specified, so it may not have the ability to be converted to another function.

Universal locks Order a universal lock to allow for the option of changing functions to meet future needs. Three universal functions are available that can be configured to a variety of common functions, all without opening the lock case. When any of the universal functions are ordered as a complete lock, all necessary parts (including trim) are provided to configure any of the functions in that group. Universal locks can only be ordered with sectional (rose) trim. If escutcheon (J/M/N) trim is needed, order a three-part lock as described below.

Three-part locks For maximum flexibility, a 40H Series Lock can be ordered in three parts—inside trim, case only, and outside trim. The kits associated with each of the three parts are designed so that when combined, all necessary components of a 40H Series Lock are present. This method of ordering is ideal for customers who want to stock a variety of trim designs with a minimal number of lock cases.

THE ADVANTAGE OF KITS

Often a service manual is nothing more than a parts catalog. With 40H Series Locks, we've raised the bar regarding the ease of ordering, installing, and maintaining the lock. This service manual reflects this streamlined approach.

When you order a part kit, rather than individual components, you get peace of mind knowing that the manufacturer has already gone through the work of matching up the right parts to ensure they all work together and, more importantly, that you get all the pieces you'll need. Through the use of nomenclature, you specify what you need based on the required application, and the factory assembles the appropriate parts to fill that need.

WORKING WITH UNIVERSAL FUNCTIONS

The universal case design allows a number of common functions to be configured starting from three universal functions. Some functions can be configured using the parts provided when ordering the complete lock. Others require additional or different trim that is applied to the universal case assembly. Also, some of the functions normally included in the universal locks have unnecessary internal parts that are removed when the lock is ordered as a specific function, limiting their ability to be converted to other functions.

The table below summarizes the conversion capabilities of the 40H Universal Function Locks.

	UNR	UNT	UNAB
What is the default function for the universal lock?	R	T	AB
Which functions can be configured when ordering a universal lock?	A, AT, D, N, NX, R	L, T	AB, TA, TD
Which functions can be built from a universal case, but require additional or different trim?	C, INL, ZD, XR, W	IND	H, HJ
Which functions found in universal locks have parts removed when they are ordered as specific functions, limiting their ability to be converted?	A, N, NX	L	TA, TD

The following functions must always be ordered by their specific function letters and require the case to be opened when converting to a different function:

- B
- B5
- B7
- BA
- BW
- CHB
- G
- LB
- LT
- RHB
- S

Working with Trim Kits

A 40H trim kit is half of a complete trim package. An outside trim kit must be matched with the appropriate inside trim kit to operate with a lock. Each kit includes all parts, including fasteners, required for installation of the trim on one side of the door.

Because many lock functions share a common case assembly and differ only in trim, using trim kits is an easy and efficient way to convert between functions. The table below shows how to match the appropriate inside trim kit and outside trim kit with each function. For information about how to order 45 & 47H trim kits, see *Trim Parts* on page 5-1.

Function	Outside trim kit				Inside trim kit				
	OS1	OS2	OS3	OS4	IS1	IS2	IS3	IS4	IS5
A†		■			■				
AB‡		■				■			
AD				■					■
AT†		■				■			
B		■				■			
BA		■				■			
BW		■				■			
D†		■			■				
DEL		■			■				
DEU		■			■				
G		■					■		
HJ		■				■			
IND		■					■		
INL		■					■		
L††			■			■			
LB			■			■			
LEL	■					■			
LEU	■					■			
LT			■			■			
N†	■				■				
NX†	■				■				
NXEL	■				■				
NXEU	■				■				
R†		■			■				
RHB		■			■				
S		■					■		
T††		■				■			
TA‡		■				■			
TD‡		■				■			
TDEL		■			■				
TDEU		■			■				
TWEL		■					■		
TWEU		■					■		
W		■					■		
WD				■				■	
WEL		■					■		
WEU		■					■		
YD				■					

†. Function can be created using a UNR case assembly. ‡. Function can be created using a UNAB case assembly.
††.Function can be created using a UNT case assembly.

The following functions, as well as any trim one side only applications, cannot use trim kits because they contain specialized trim components:

- 1DT
- 2DT
- B5
- B7
- C
- CHB
- H
- RD
- XR
- ZD

TRIM ONE SIDE LOCKS

Occasionally an application calls for a commonly-used lock function with either the inside or outside trim removed. These specialized configurations require a special letter designation to be appended to the function letter.

- If the inside trim is removed, a "Z" is added to the standard function letter.
- If the outside trim is removed, an "X" is added to the standard function letter.

The following table shows common applications with their corresponding speciality function designation.

Application	Standard function	Specialty function	Description
Classroom	R	XR	R function less outside trim D
Storeroom	D	XD	function less outside trim D
Utility	D	ZD	function less inside trim R
Closet	R	ZR	function less inside trim

Although only XR and ZD functions are included in this manual, nearly all 40H functions can be configured as X or Z functions. Contact your local dormakaba Representative for more details.

All trim one side locks use the special hook spindle to attach the remaining lever to the lock. See page 5–17 for more information about the hook spindle.

3 Lock Functions

The following pages contain function descriptions for all 45H & 47H Locks and 45HW & 47HW Locks. For function descriptions for 48H & 49H Locks, see *Function descriptions* on page 7–2.

45H & 47H Functions by ANSI designation & lock function quick reference

ANSI No.	45H & 47H Function
F01	N
F02	LB
F04	A, AT
F05	R
F06	RHB
F07	D
F08	BA
F09	C
F10	BA
F12	TA
F13	T
F14	G
F15	H, HJ
F16	YD
F17	AD
F18	WD
F19	L
F20	AB
F21	B
F29	RD
F30	W
F31	NX
F32	INL
F33	IND
F35	S

45H & 47H Function	35H–37H Function†	Description page number	Diagram page number
1DT	1DT	See page 3–12	
2DT	2DT	See page 3–12	
A	E	See page 3–5	See page 4–2
AB	AW	See page 3–5	See page 4–14
AD	P	See page 3–10	See page 4–34
AT		See page 3–5	See page 4–4
B	B	See page 3–5	See page 4–16
BA	A	See page 3–6	See page 4–18
BW	BW	See page 3–6	See page 4–20
B5‡	B4/B5	See page 3–13	See page 4–22
B7‡	B6/B7	See page 3–13	See page 4–22
C	G	See page 3–8	See page 4–4
CHB	GHB	See page 3–8	See page 4–12
D	EW	See page 3–6	See page 4–4
G	C	See page 3–8	See page 4–22
H	HF	See page 3–6	See page 4–24
HJ	HJ	See page 3–6	See page 4–24
IND	IND	See page 3–8	See page 4–26
INL	INL	See page 3–9	See page 4–4
L	LF	See page 3–11	See page 4–28
LB	L	See page 3–11	See page 4–30
LT		See page 3–11	See page 4–6
N	N	See page 3–11	See page 4–8
NX	Y	See page 3–11	See page 4–10
R	J	See page 3–7	See page 4–4
RD	R	See page 3–10	See page 4–36
RHB	JHB	See page 3–7	See page 4–12
S	W	See page 3–9	See page 4–18
T	FW	See page 3–7	See page 4–26
TA	F	See page 3–7	See page 4–32
TD	FD	See page 3–7	See page 4–24
W	WW	See page 3–9	See page 4–4
WD	T	See page 3–10	See page 4–34
XR		See page 3–13	See page 4–4
YD	S	See page 3–10	See page 4–34
ZD		See page 3–13	See page 4–4
UNR			
UNT			
UNAB			

†. With the introduction of the 40H Series Lock, dormakaba changed the mortise function letter designations to align them with the BEST cylindrical lock functions. This column shows the old 30H function designation for each.

‡. The only difference between the 35H–37H B4 versus B5 functions and the B6 versus B7 functions was the cylinder retaining screw. The B4 and B5 functions have been combined into the 45H & 47H B5 function. The B6 and B7 functions have been combined into the 45H & 47H B7 function.

45HW & 47HW LOCK FUNCTION QUICK REFERENCE

45HW & 47HW Function	35HW & 37HW Function	Description page number	Diagram page number
DEL	EWEL	See page 3–14	See page 4–38
DEU	EWEU	See page 3–14	See page 4–40
LEL		See page 3–14	See page 4–58
LEU		See page 3–14	See page 4–60
NXEL	YEL	See page 3–15	See page 4–46
NXEU	YEU	See page 3–15	See page 4–48
TDEL		See page 3–15	See page 4–50
TDEU		See page 3–15	See page 4–52
TWEL		See page 3–16	See page 4–54
TWEU		See page 3–16	See page 4–56
WEL	WWEL	See page 3–16	See page 4–42
WEU	WWEU	See page 3–16	See page 4–44

FUNCTION DESCRIPTIONS

This section includes function descriptions grouped by the following function types:

- single-keyed (page 3–5)
- double-keyed (page 3–8)
- deadlocked (page 3–10)
- non-keyed (page 3–11)
- special (page 3–13)
- electrified (page 3–14)

Note: If the function is ANSI defined, the ANSI designation appears by the function name.

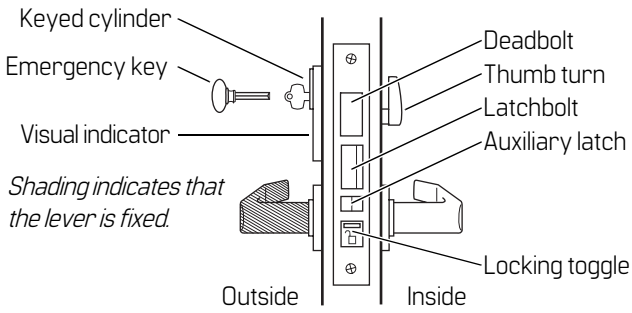
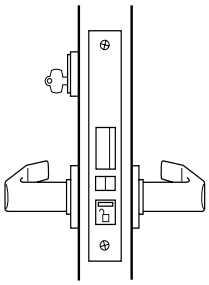


Figure 3.1 Understanding function drawings

Single-keyed functions

The following lists describe how the latchbolt, deadbolt, outside lever, and inside lever operate for each single-keyed 45H & 47H function.

A–Office lock (ANSI F04)



Latchbolt operated by:
- outside key
- outside lever when the locking toggle is in the unlocked position
- inside lever

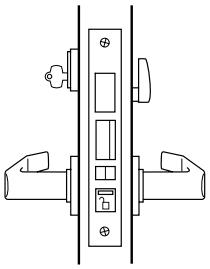
Latchbolt is deadlocked by an auxiliary latch

Outside lever locked by:
- placing the locking toggle in the locked position

Outside lever unlocked by:
- placing the locking toggle in the unlocked position

Inside lever is always unlocked

AB–Office lock (ANSI F20)



Latchbolt operated by:
- outside key
- outside lever when the locking toggle is in the unlocked position
- inside lever

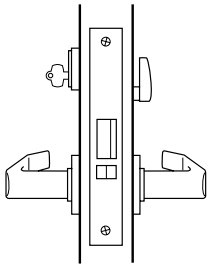
Latchbolt is deadlocked by an auxiliary latch

Deadbolt operated by:
- outside key
- inside thumb turn
- inside lever retracts the deadbolt and latchbolt simultaneously

Outside lever locked by:
- placing the locking toggle in the locked position
- extending the deadbolt **Outside lever unlocked by:**
- placing the locking toggle in the unlocked position

Inside lever is always unlocked

AT–Office lock (ANSI F04)



Latchbolt operated by:
- outside key
- outside lever when unlocked by outside or thumb turn
- inside lever

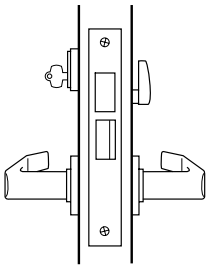
Latchbolt is deadlocked by an auxiliary latch

Outside lever locked by:
- outside key
- inside thumb turn

Outside lever unlocked by:
- outside key
- inside turn knob

Inside lever is always unlocked

B–Entrance lock (ANSI F21)

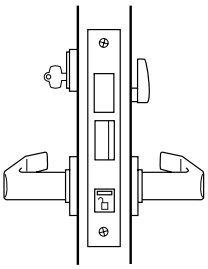


Latchbolt operated by:
- outside key
- outside lever when the deadbolt is retracted
- inside lever when the deadbolt is retracted

Deadbolt operated by:
- outside key
- inside thumb turn

Inside and outside lever locked by:
- extending the deadbolt

BA–Entrance lock (ANSI F08)



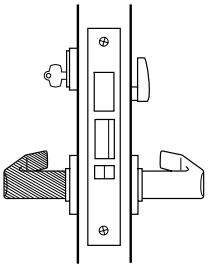
Latchbolt operated by:
- outside key
- outside lever when the locking toggle is in the unlocked position
- inside lever when the deadbolt is retracted

Deadbolt operated by:
- outside key
- inside thumb turn

Outside lever locked by:
- extending the deadbolt
- placing the locking toggle in the locked position

Inside lever locked by:
- extending the deadbolt

BW–Entrance or storeroom lock

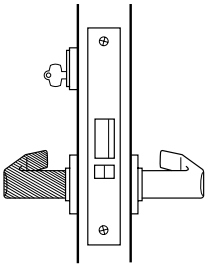


Latchbolt operated by:
- outside key
- inside lever when the deadbolt is retracted

Latchbolt is deadlocked by an auxiliary latch
Deadbolt operated by:
- outside key
- inside thumb turn

Outside lever is always fixed
Inside lever locked by:
- extending the deadbolt

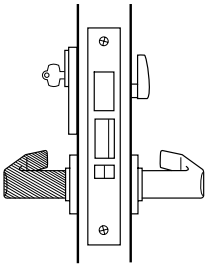
D–Storeroom lock (ANSI F07)



Latchbolt operated by:
- outside key
- inside lever

Latchbolt is deadlocked by an auxiliary latch
Outside lever is always fixed
Inside lever is always unlocked

H–Hotel lock (ANSI F15)



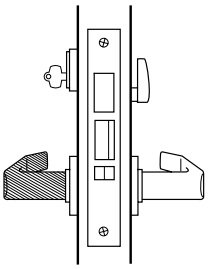
Latchbolt operated by:
- outside key
- inside lever

Latchbolt is deadlocked by an auxiliary latch
Deadbolt operated by:
- outside special master key
- inside thumb turn
- inside lever retracts the deadbolt and latchbolt simultaneously

Outside lever is always fixed
Inside lever is always unlocked

Note 1: When the deadbolt is extended, the visual indicator shows the locked icon.
Note 2: Available for 45H Locks only.

HJ–Hotel lock (ANSI F15)



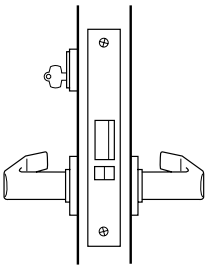
Latchbolt operated by:
- outside key
- inside lever

Latchbolt is deadlocked by an auxiliary latch
Deadbolt operated by:
- outside special master key
- inside thumb turn
- inside lever retracts the deadbolt and latchbolt simultaneously

Outside lever is always fixed
Inside lever is always unlocked

Note: Available for 45H Locks only.

R–Classroom lock (ANSI F05)

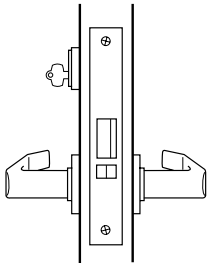


Latchbolt operated by:
- outside key
- outside lever when unlocked by the outside key
- inside lever

Latchbolt deadlocked by an auxiliary latch
Outside lever locked and unlocked by:
- outside key

Inside lever is always unlocked

RHB–Classroom holdback (ANSI F06)



Latchbolt operated by:
- outside key/lever
- outside lever except when locked by the outside key
- inside lever

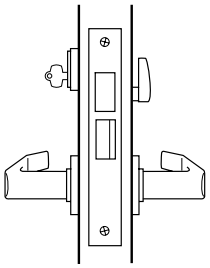
Latchbolt is deadlocked by an auxiliary latch

Latchbolt stays retracted after:
- turning the inside lever up and then rotating the outside key

Outside lever locked and unlocked by:
- outside key

Inside lever is always unlocked

T–Dormitory lock (ANSI F13)



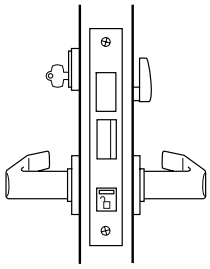
Latchbolt operated by:
- outside lever when deadbolt is retracted
- inside lever

Deadbolt operated by:
- outside key
- inside thumb turn
- inside lever retracts the deadbolt and latchbolt simultaneously

Outside lever locked by:
- extending the deadbolt **Outside lever unlocked by:**
- retracting the deadbolt

Inside lever is always unlocked

TA–Dormitory lock (ANSI F12)



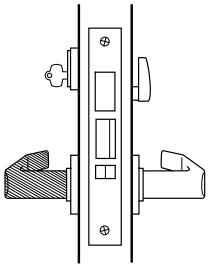
Latchbolt operated by:
- outside key
- outside lever when the locking toggle is in the unlocked position and the deadbolt is retracted
- inside lever

Deadbolt operated by:
- outside key
- inside thumb turn
- inside lever retracts the deadbolt and latchbolt simultaneously

Outside lever locked by:
- placing the locking toggle in the locked position
- extending the deadbolt **Outside lever unlocked by:**
- outside key and placing the locking toggle in the unlocked position

Inside lever is always unlocked

TD–Dormitory lock



Latchbolt operated by:
- outside key
- inside lever

Latchbolt is deadlocked by an auxiliary latch

Deadbolt operated by:
- outside key
- inside thumb turn
- inside lever retracts the deadbolt and latchbolt simultaneously

Outside lever is always fixed

Inside lever is always unlocked

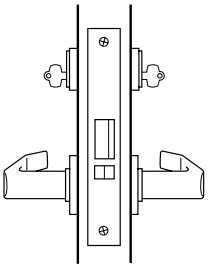
Double-keyed functions

The following lists describe how the latchbolt, deadbolt, outside lever, and inside lever operate for each double-keyed 45H & 47H function.

Warning!

Locks that secure both sides of the door are controlled by building codes and the Life Safety Code®. In an emergency exit situation, failure to quickly unlock the door could be hazardous, or even fatal.

C–Public entrance (ANSI F09)

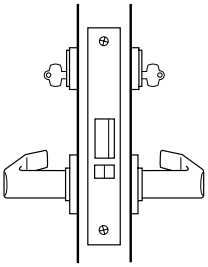


Latchbolt operated by:
- outside key
- outside lever except when locked by inside key
- inside lever

Latchbolt is deadlocked by an auxiliary latch
Outside lever locked and unlocked by:
- inside key

Inside lever is always unlocked

CHB–Holdback



Latchbolt operated by:
- outside key
- outside lever except when locked by inside key
- inside lever

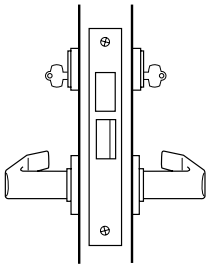
Latchbolt stays retracted after:
- turning the inside lever up and then rotating the inside key

Latchbolt is deadlocked by an auxiliary latch
Outside lever locked and unlocked by:
- inside key

Inside lever is always unlocked

Note: The inside cylinder may be combinated to operate by the master key only.

G–Communicating lock (ANSI F14)



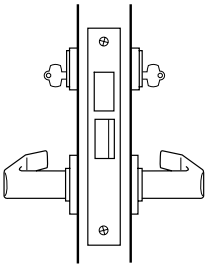
Latchbolt operated by:
- inside lever when deadbolt is retracted
- outside lever when deadbolt is retracted

Deadbolt operated by:
- outside key
- inside key

Outside lever locked by:
- extending the deadbolt

Inside lever locked and unlocked by:
- inside key
- outside key

IND–Intruder lock (ANSI F33)



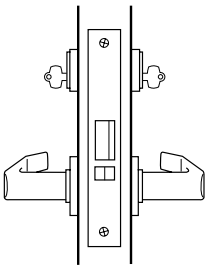
Latchbolt operated by:
- outside key
- inside key
- outside lever when deadbolt is retracted
- inside lever

Deadbolt operated by:
- outside key
- inside key
- inside lever retracts the deadbolt and latchbolt simultaneously

Outside lever locked by:
- extending the deadbolt **Outside lever unlocked by:**
- retracting the deadbolt

Inside lever is always unlocked

INL–Intruder lock (ANSI F32)

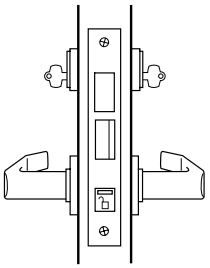


Latchbolt operated by:
- outside and inside key
- outside lever when not locked by inside or outside key
- inside lever

Latchbolt is deadlocked by an auxiliary latch
Outside lever locked and unlocked by:
- outside key and inside key

Inside lever is always unlocked

S–Storeroom lock (ANSI F35)



Latchbolt operated by:
- outside and inside key
- outside lever when the locking toggle is in the unlocked position
- inside lever when the deadbolt is retracted

Deadbolt operated by:
- outside key
- inside key

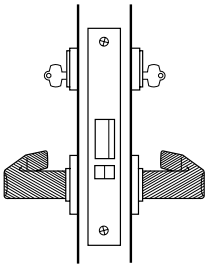
Outside lever locked by:
- placing the locking toggle in the locked position

Outside lever unlocked by:
- retracting the deadbolt and placing the locking toggle in the unlocked position

Inside lever locked by:
- extending the deadbolt

Inside lever unlocked by:
- retracting the deadbolt

W–Storeroom lock (ANSI F30)



Latchbolt operated by:
- inside key
- outside key

Latchbolt is deadlocked by an auxiliary latch
Outside lever is always fixed
Inside lever is always fixed

Note: When required, the inside cylinder may be combinated to operate by master key only.

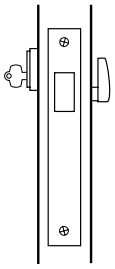
Deadlocked functions

The following lists describe how the deadbolt operates for each deadlocked 45H & 47H function.

Warning!

Locks that secure both sides of the door are controlled by building codes and the Life Safety Code®. In an emergency exit situation, failure to quickly unlock the door could be hazardous, or even fatal.

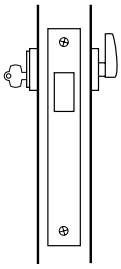
AD–Deadlock (ANSI F17)



Deadbolt extended by:
- outside key

Deadbolt retracted by:
- inside thumb turn

RD–Classroom deadlock (ANSI F29)

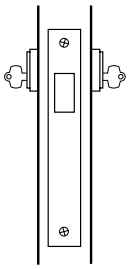


Deadbolt extended by:
- outside key

Deadbolt retracted by:
- outside key
- inside thumb turn

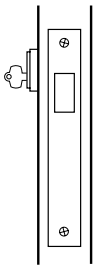
Note: Specify the hand of the door.

WD–Deadlock (ANSI F16)



Deadbolt operated by:
- outside key
- inside key

YD–Deadlock (ANSI F18)

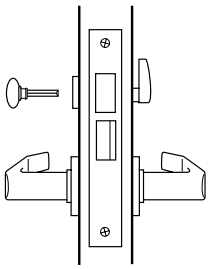


Deadbolt operated by:
- outside key

Non-keyed functions

The following lists describe how the latchbolt, deadbolt, outside lever, and inside lever operate for each non-keyed 45H function.

L–Privacy lock (ANSI F19)



Latchbolt operated by:
- outside lever when the deadbolt is retracted
- inside lever

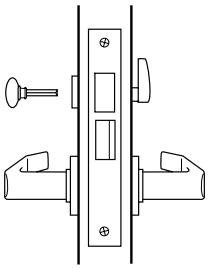
Deadbolt operated by:
- outside emergency key
- inside thumb turn
- inside lever retracts the deadbolt and latchbolt simultaneously

Outside lever locked by:
- outside emergency key
- inside thumb turn

Outside lever unlocked by:
- outside emergency key
- inside thumb turn
- inside lever

Inside lever is always unlocked

LB–Privacy lock (ANSI F02)



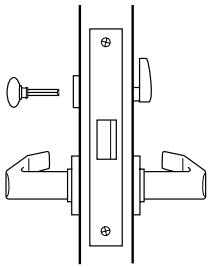
Latchbolt operated by:
- outside lever when the deadbolt is retracted
- inside lever when the deadbolt is retracted

Deadbolt operated by:
- outside emergency key
- inside thumb turn

Inside and outside lever locked by:
- extending the deadbolt

Inside and outside lever unlocked by:
- retracting the deadbolt

LT–Privacy lock



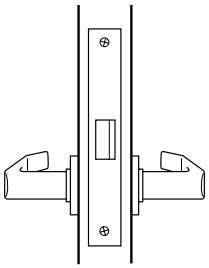
Latchbolt operated by:
- outside lever when thumb turn is unlocked
- inside lever

Outside lever locked by:
- outside emergency key
- inside thumb turn

Outside lever unlocked by:
- outside emergency key
- inside thumb turn
- inside lever

Inside lever is always unlocked

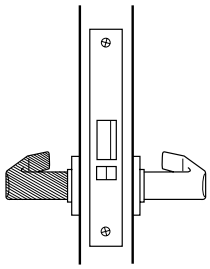
N–Passage lock (ANSI F01)



Latchbolt operated by:
- outside lever
- inside lever

Inside and outside levers are always unlocked

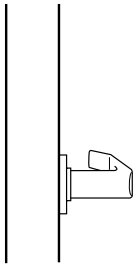
NX–Exit lock (ANSI F31)



Latchbolt operated by:
- inside lever

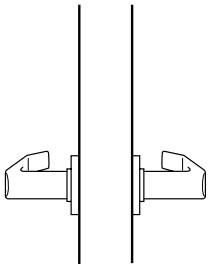
Latchbolt is deadlocked by an auxiliary latch
Outside lever is always fixed
Inside lever is always unlocked

1DT–Single dummy trim



This product is a single, surface mounted lever for an inactive door or a non-latching door.

2DT–Double dummy trim



This product is a through-bolt mounted pair of matching levers for an inactive door or a non-latching door.

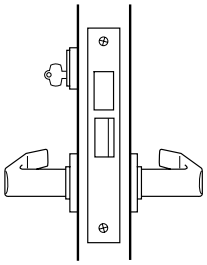
Special functions

The following lists describe how the latchbolt, deadbolt, outside lever, and inside lever operate for each special 45H & 47H function.

Warning!

Locks that secure both sides of the door are controlled by building codes and the Life Safety Code®. In an emergency exit situation, failure to quickly unlock the door could be hazardous, or even fatal.

B5–Entrance lock



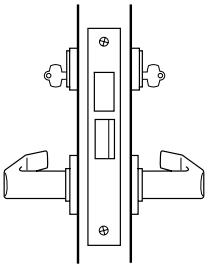
Latchbolt operated by:
- outside key
- outside lever when the deadbolt is retracted
- inside lever when the deadbolt is retracted

Deadbolt operated by:
- outside key

Inside and outside lever locked by:
- extending the deadbolt

Note 1: Trim is removable from the outside only.
Note 2: The only difference between the 35H–37H B4 and B5 functions was the cylinder retaining screw. The B4 and B5 functions have been combined into the 45H & 47H B5 function.

B7–Entrance lock



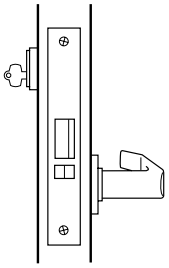
Latchbolt operated by:
- inside key
- outside key
- outside lever when the deadbolt is retracted
- inside lever when the deadbolt is retracted

Deadbolt operated by:
- outside key
- inside key

Inside and outside lever locked by:
- extending the deadbolt

Note 1: Trim is removable from the outside only.
Note 2: The only difference between the 35H–37H B6 and B7 functions was the cylinder retaining screw. The B6 and B7 functions have been combined into the 45H & 47H B7 function.

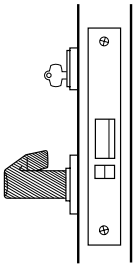
XR–Classroom lock



Latchbolt operated by:
- outside key
- inside lever

Inside lever is always unlocked

ZD–Storeroom lock



Latchbolt operated by:
- outside key

Latchbolt is deadlocked by an auxiliary latch
Outside lever is always locked

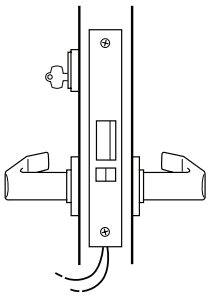
Electrified functions

The following lists describe how the latchbolt, deadbolt, outside lever, and inside lever operate for each electrified 45HW & 47HW function.

Warning!

Locks that secure both sides of the door are controlled by building codes and the Life Safety Code®. In an emergency exit situation, failure to quickly unlock the door could be hazardous, or even fatal.

DEL–Electrically locked–Fail safe lock



Latchbolt operated by:
- outside lever when power is removed from the solenoid
- outside key
- inside lever

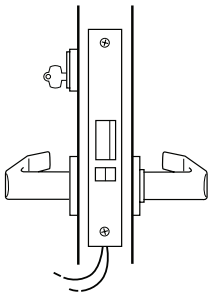
Latchbolt is deadlocked by an auxiliary latch

Outside lever locked by:
- applying power to solenoid; remains locked while power is continuously applied

Outside lever unlocked by:
- removing power from the solenoid

Inside lever is always unlocked

DEU–Electrically unlocked–Fail secure lock



Latchbolt operated by:
- outside lever when power is applied to the solenoid
- outside key
- inside lever

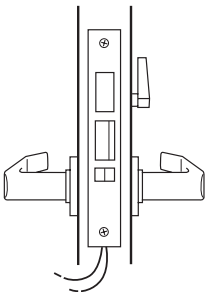
Latchbolt is deadlocked by an auxiliary latch

Outside lever locked by:
- removing power from solenoid

Outside lever unlocked by:
- applying power to the solenoid; remains unlocked while power is continuously applied

Inside lever is always unlocked

LEL–Electrically locked–Fail safe lock



Latchbolt operated by:
- outside lever when power is removed from the solenoid
- inside lever

Latchbolt is deadlocked by an auxiliary latch

Deadbolt extended by:
- inside thumb turn

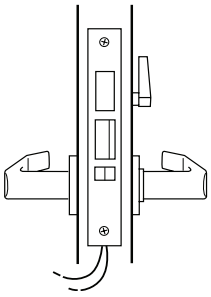
Deadbolt retracted by:
- inside thumb turn
- inside lever retracts the deadbolt and latchbolt simultaneously
- outside lever when power is removed

Outside lever locked by:
- applying power to the solenoid; remains locked while power is continuously applied

Outside lever unlocked by:
- removing power from the solenoid

Inside lever is always unlocked

LEU–Electrically unlocked–Fail secure lock



Latchbolt operated by:
- outside lever when power is applied to the solenoid
- inside lever

Latchbolt is deadlocked by an auxiliary latch

Deadbolt extended by:
- inside thumb turn

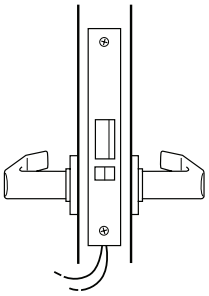
Deadbolt retracted by:
- inside thumb turn
- inside lever retracts the deadbolt and latchbolt simultaneously
- outside lever when power is applied

Outside lever locked by:
- removing power from the solenoid

Outside lever unlocked by:
- applying power to the solenoid; remains unlocked while power is continuously applied

Inside lever is always unlocked

NXEL–Electrically locked–Fail safe lock



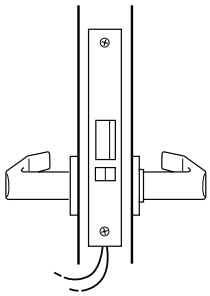
Latchbolt operated by:
- outside lever when power is removed from the solenoid
- inside lever

Latchbolt is deadlocked by an auxiliary latch
Outside lever locked by:
- applying power to the solenoid; remains locked while power is continuously applied

Outside lever unlocked by:
- removing power from the solenoid

Inside lever is always unlocked

NXEU–Electrically unlocked–Fail secure lock



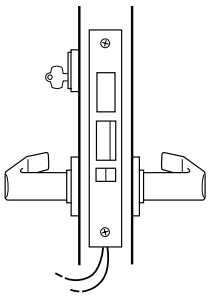
Latchbolt operated by:
- outside lever when power is applied to the solenoid
- inside lever

Latchbolt is deadlocked by an auxiliary latch
Outside lever locked by:
- removing power from the solenoid

Outside lever unlocked by:
- applying power to the solenoid; remains unlocked while power is continuously applied

Inside lever is always unlocked

TDEL–Electrically locked–Fail safe lock



Latchbolt operated by:
- outside key
- outside lever when power is removed from the solenoid

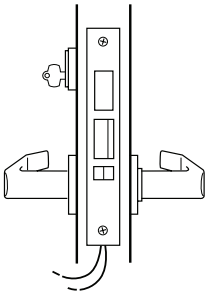
Latchbolt is deadlocked by an auxiliary latch
Deadbolt operated by:
- outside key

Outside lever locked by:
- applying power to the solenoid; remains locked while power is continuously applied

Outside lever unlocked by:
- removing power from the solenoid

Inside lever is always unlocked
Deadbolt and latchbolt retracted simultaneously by:
- inside lever
- outside lever when power is removed

TDEU–Electrically unlocked–Fail secure lock)



Latchbolt operated by:
- outside key
- outside lever when power is applied to the solenoid

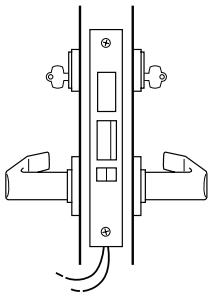
Latchbolt is deadlocked by an auxiliary latch
Deadbolt operated by:
- outside key

Outside lever locked by:
- removing power from the solenoid

Outside lever unlocked by:
- applying power to the solenoid; remains unlocked while power is continuously applied

Inside lever is always unlocked
Deadbolt and latchbolt retracted simultaneously by:
- inside lever
- outside lever when power is applied

TWEL–Electrically locked–Fail safe lock



Latchbolt operated by:
- outside and inside key
- outside and inside lever when power is removed from the solenoid

Latchbolt is deadlocked by an auxiliary latch
Deadbolt operated by:
- outside key
- inside key
- outside and inside lever when power is removed from the solenoid

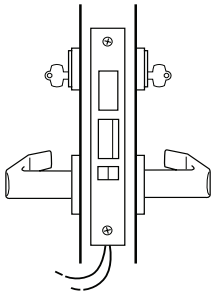
Outside lever locked by:
- applying power to the solenoid; remains locked while power is continuously applied

Outside lever unlocked by:
- removing power from the solenoid

Inside lever locked by:
- applying power to the solenoid; remains locked while power is continuously applied

Inside lever unlocked by:
- removing power from solenoid

TWEU–Electrically unlocked–Fail secure lock



Latchbolt operated by:
- outside and inside key
- outside and inside lever when power is applied to the solenoid

Latchbolt is deadlocked by an auxiliary latch
Deadbolt operated by:
- outside key
- inside key
- outside and inside lever when power is applied to the solenoid

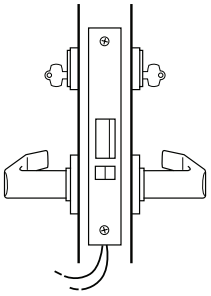
Outside lever locked by:
- removing power from the solenoid

Outside lever unlocked by:
- applying power to the solenoid; remains unlocked while power is continuously applied

Inside lever locked by:
- removing power from the solenoid

Inside lever unlocked by:
- applying power to the solenoid; remains locked while power is continuously applied

WEL–Electrically locked–Fail safe lock



Latchbolt operated by:
- inside lever when power is removed from the solenoid
- outside lever when power is removed from the solenoid
- inside key
- outside key

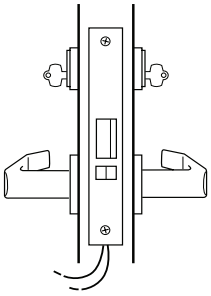
Latchbolt is deadlocked by an auxiliary latch
Outside lever locked by:
- applying power to the solenoid; remains locked while power is continuously applied

Outside lever unlocked by:
- removing power from the solenoid

Inside lever locked by:
- applying power to the solenoid; remains locked while power is continuously applied

Inside lever unlocked by:
- removing power from the solenoid

WEU–Electrically unlocked–Fail secure lock



Latchbolt operated by:
- inside lever when power is applied to the solenoid
- outside lever when power is applied to the solenoid
- inside key
- outside key

Latchbolt is deadlocked by an auxiliary latch
Outside lever locked by:
- removing power from the solenoid

Outside lever unlocked by:
- applying power to the solenoid; remains locked while power is continuously applied

Inside lever locked by:
- removing power from the solenoid

Inside lever unlocked by:
- applying power to the solenoid; remains locked while power is continuously applied

4 Mortise Case Parts

The following pages contain exploded diagrams and parts lists for 45H & 47H and 45HW & 47HW mortise cases. Use the table below to find the page number for a particular function. For exploded diagrams and parts lists for 48H mortise cases, see *48H & 49H Mortise case parts* on page 7–2.

For this function	See page	For this function	See page	For this function	See page
A	4–2	H	4–24	S	4–18
AB	4–14	HJ	4–24	T	4–26
AD	4–34	IND	4–26	TA	4–32
AT	4–4	INL	4–4	TD	4–24
B	4–16	L	4–28	TDEL	4–50
BA	4–18	LB	4–30	TDEU	4–52
BW	4–20	LEL	4–58	TWEL	4–54
B5	4–22	LEU	4–60	TWEU	4–56
B7	4–22	LT	4–6	W	4–4
C	4–4	NX	4–10	WEL	4–42
CHB	4–12	NXEL	4–46	WEU	4–44
D	4–4	NXEU	4–48	WD	4–34
DEL	4–38	R	4–4	XR	4–4
DEU	4–40	RD	4–36	YD	4–34
G	4–22	RHB	4–12	ZD	4–4

A FUNCTION CASE—OFFICE LOCK

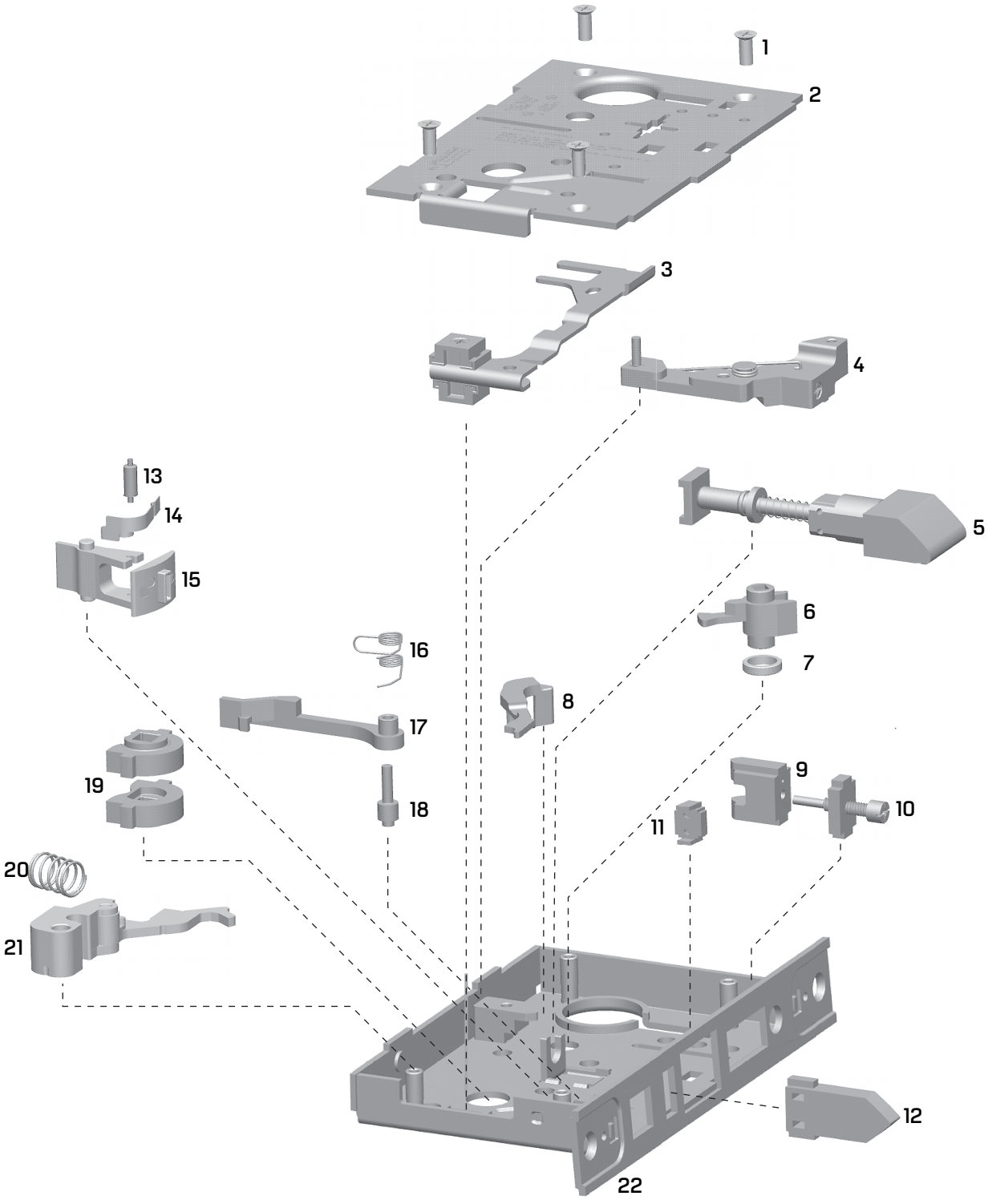


Figure 4.1 A function case exploded diagram

A function case parts list

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

Item	Part No.[a]	Qty.	Description
1	A34087	4	Case cover mounting screw
2	D44010	1	Cover
3	C45030	1	Locking lever and toggle assembly
4	B45040	1	Key release shuttle assembly
5	B45020	1	Latchbolt sub-assembly
6	C44108	1	Turn knob hub (lost motion)
7	A34120	1	Turn knob hub spacer
8	C44110	1	Key release lever
9	C44144	1	Cylinder retainer
10	B45090	1	Cylinder retainer assembly
11	B44166	1	Fusible link molded assembly
12	C44142	1	Auxiliary bolt
13	A44188	1	Toggle roller
14	B44190	1	Toggle lever spring
15	C44100	1	Toggle lever
16	B44194	1	Deadlocking lever spring
17	C44148	1	Deadlocking lever
18	A44184	1	Deadlocking lever pin
19	C44146	2	Hub
20	A44193	1	Release lever spring
21	C45010	1	Release lever sub-assembly
22	C45000	1	Case sub-assembly

a. For a complete case, use C45504. To order a "case only" lock, which includes a mortise case, faceplate, and strike, see page 4–62.

AT FUNCTION CASE—OFFICE LOCK
C FUNCTION CASE—PUBLIC ENTRANCE LOCK
D FUNCTION CASE—STOREROOM LOCK
INL FUNCTION CASE—INTRUDER LOCK
R FUNCTION CASE—CLASSROOM LOCK
W FUNCTION CASE—STOREROOM LOCK
ZD FUNCTION CASE—STOREROOM LOCK
XR FUNCTION CASE—CLASSROOM LOCK

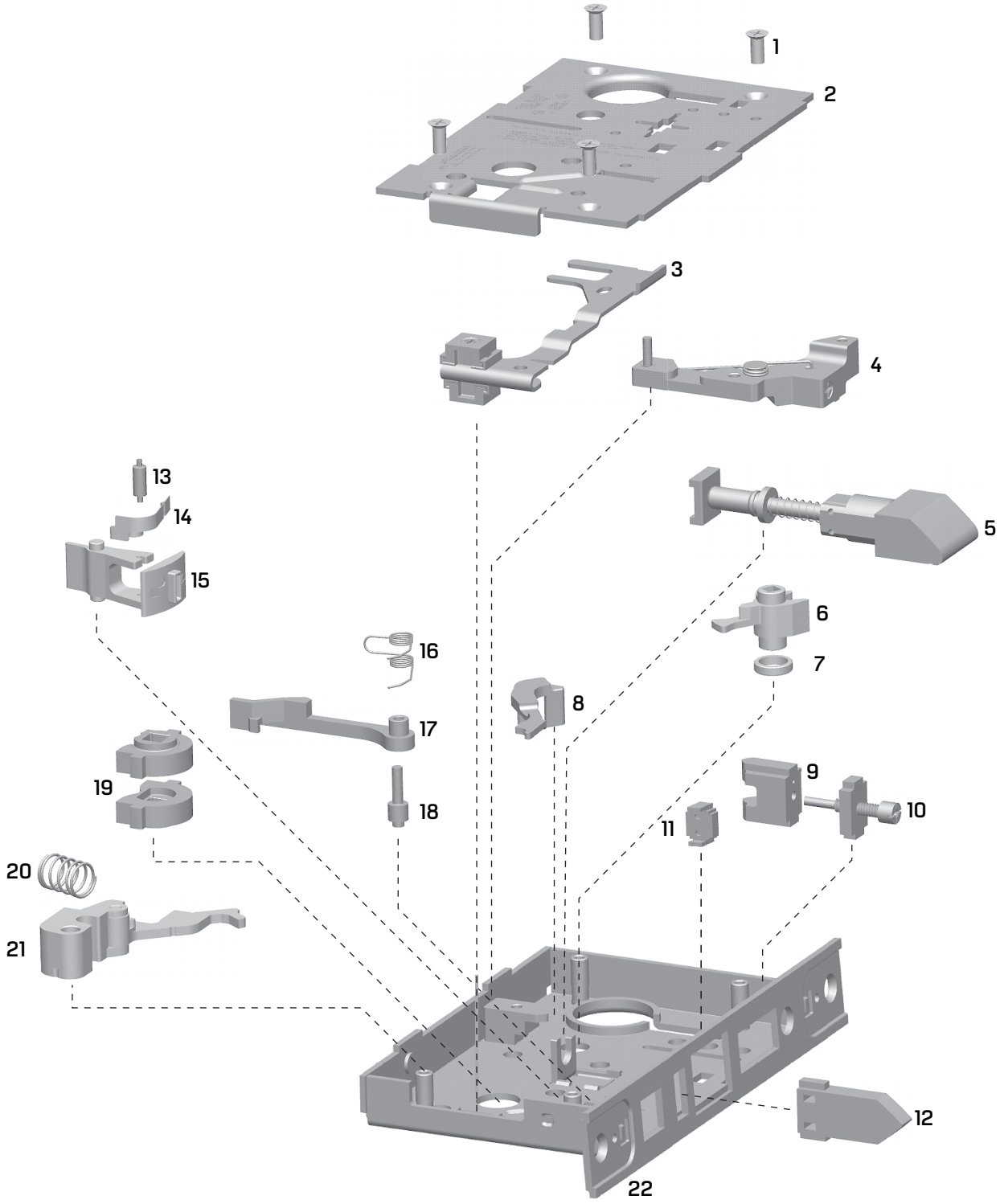


Figure 4.2 AT, C, D, INL, R, W, ZD, XR function case exploded diagram

AT, C, D, INL, R, W, ZD, XR function case parts list

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

Item	Part No.[a]	Qty.	Description
1	A34087	4	Case cover mounting screw
2	D44010	1	Cover
3	C45030	1	Locking lever and toggle assembly
4	B45040	1	Key release shuttle assembly
5	B45020	1	Latchbolt sub-assembly
6	C44106	1	Turn knob hub (non-deadbolt)
7	A34120	1	Turn knob hub spacer
8	C44110	1	Key release lever
9	C44144	1	Cylinder retainer
10	B45090	1	Cylinder retainer assembly
11	B44166	1	Fusible link molded assembly
12	C44142	1	Auxiliary bolt
13	A44188	1	Toggle roller
14	B44190	1	Toggle lever spring
15	C44100	1	Toggle lever
16	B44194	1	Deadlocking lever spring
17	C44148	1	Deadlocking lever
18	A44184	1	Deadlocking lever pin
19	C44146	2	Hub
20	A44193	1	Release lever spring
21	C45010	1	Release lever sub-assembly
22	C45000	1	Case sub-assembly

a. For a complete case assembly, use C45507 and reconfigure the shuttle screws as needed. See *Changing the function for universal cases* on page 6-5. To order a "case only" lock, which includes a mortise case, faceplate, and strike, see page 4–62.

LT FUNCTION CASE—PRIVACY LOCK

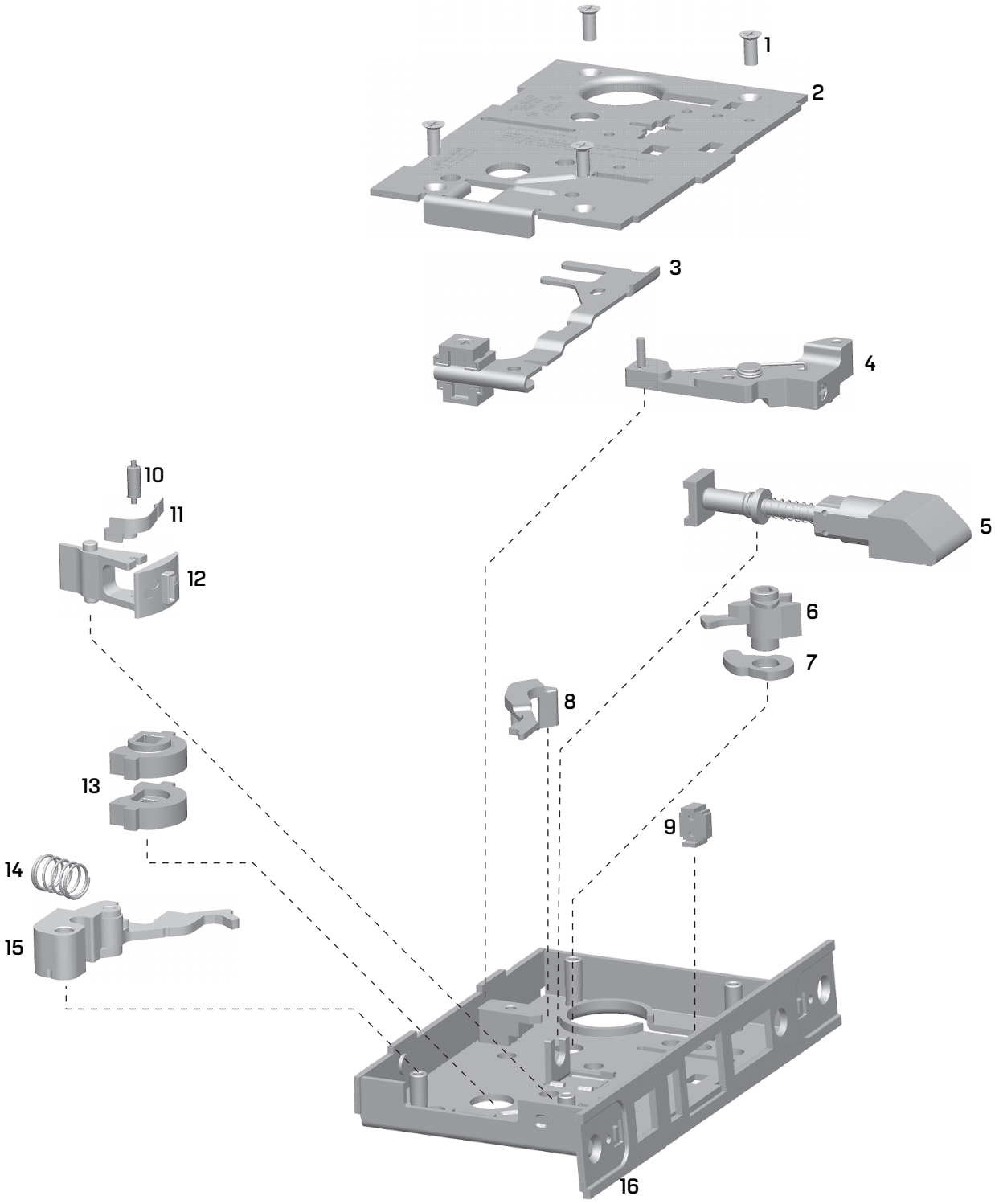


Figure 4.3 LT function case exploded diagram

LT function case parts list

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

Item	Part No.[a]	Qty.	Description
1	A34087	4	Case cover mounting screw
2	D44010	1	Cover
3	C45030	1	Locking lever and toggle assembly
4	B45040	1	Key release shuttle assembly
5	B45020	1	Latchbolt sub-assembly
6	C44104	1	Turn knob hub (deadbolt)
7	A34032	1	Turn knob hub cam
8	C44110	1	Key release lever
9	B44166	1	Fusible link molded assembly
10	A44188	1	Toggle roller
11	B44190	1	Toggle lever spring
12	C44100	1	Toggle lever
13	C44146	2	Hub
14	A44193	1	Release lever spring
15	C45010	1	Release lever sub-assembly
16	C45000	1	Case sub-assembly

a. For a complete case, use C45520. To order a "case only" lock, which includes a mortise case, faceplate, and strike, see page 4–62.

N FUNCTION CASE—PASSAGE LOCK

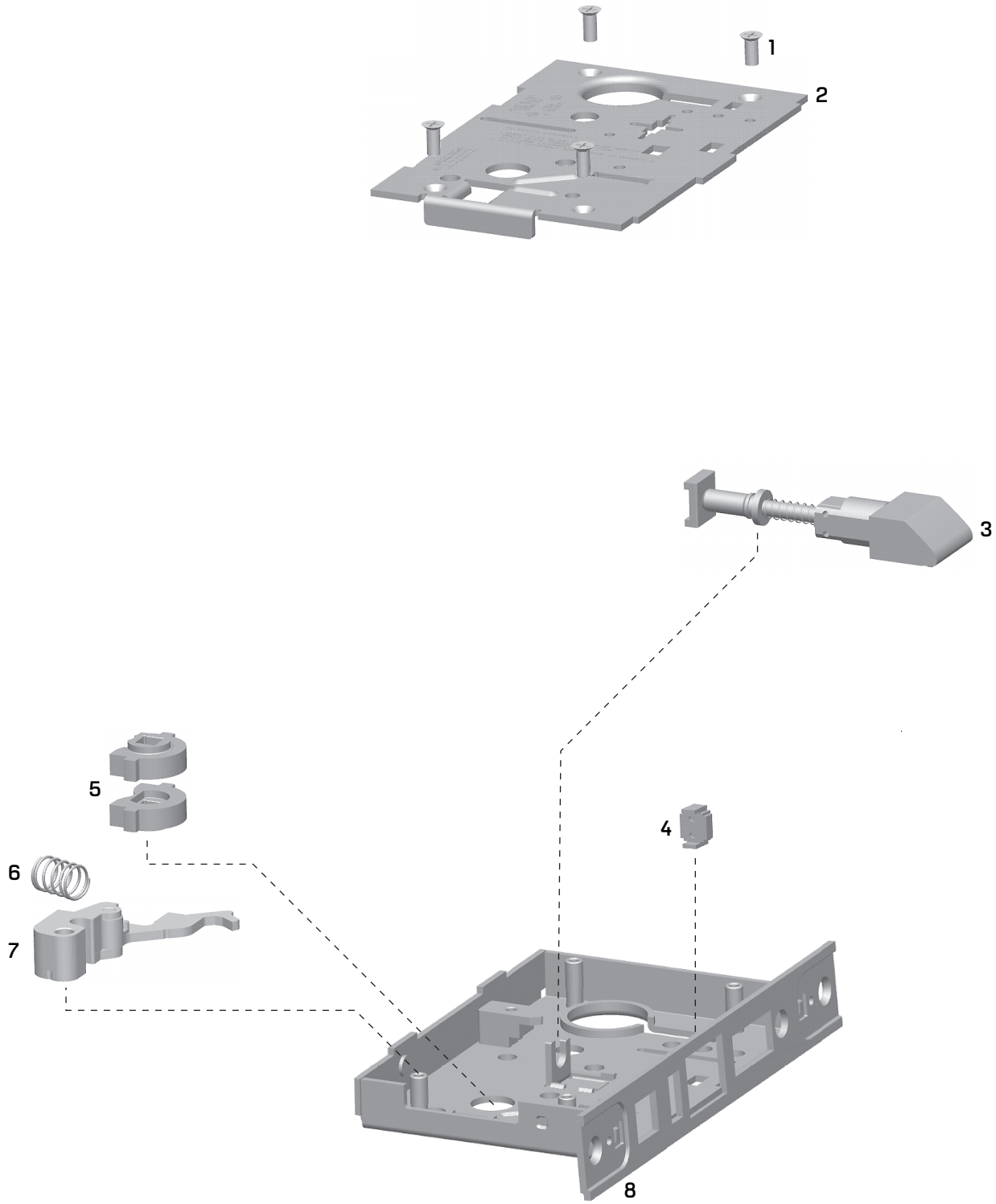


Figure 4.4 N function case exploded diagram

N function case parts list

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

Item	Part No.[a]	Qty.	Description
1	A34087	4	Case cover mounting screw
2	D44010	1	Cover
3	B45020	1	Latchbolt sub-assembly
4	B44166	1	Fusible link molded assembly
5	C44146	2	Hub
6	A44193	1	Release lever spring
7	C45010	1	Release lever sub-assembly
8	C45000	1	Case sub-assembly

a. For a complete case, use C45505. To order a "case only" lock, which includes a mortise case, faceplate, and strike, see page 4–62.

NX FUNCTION CASE—EXIT LOCK

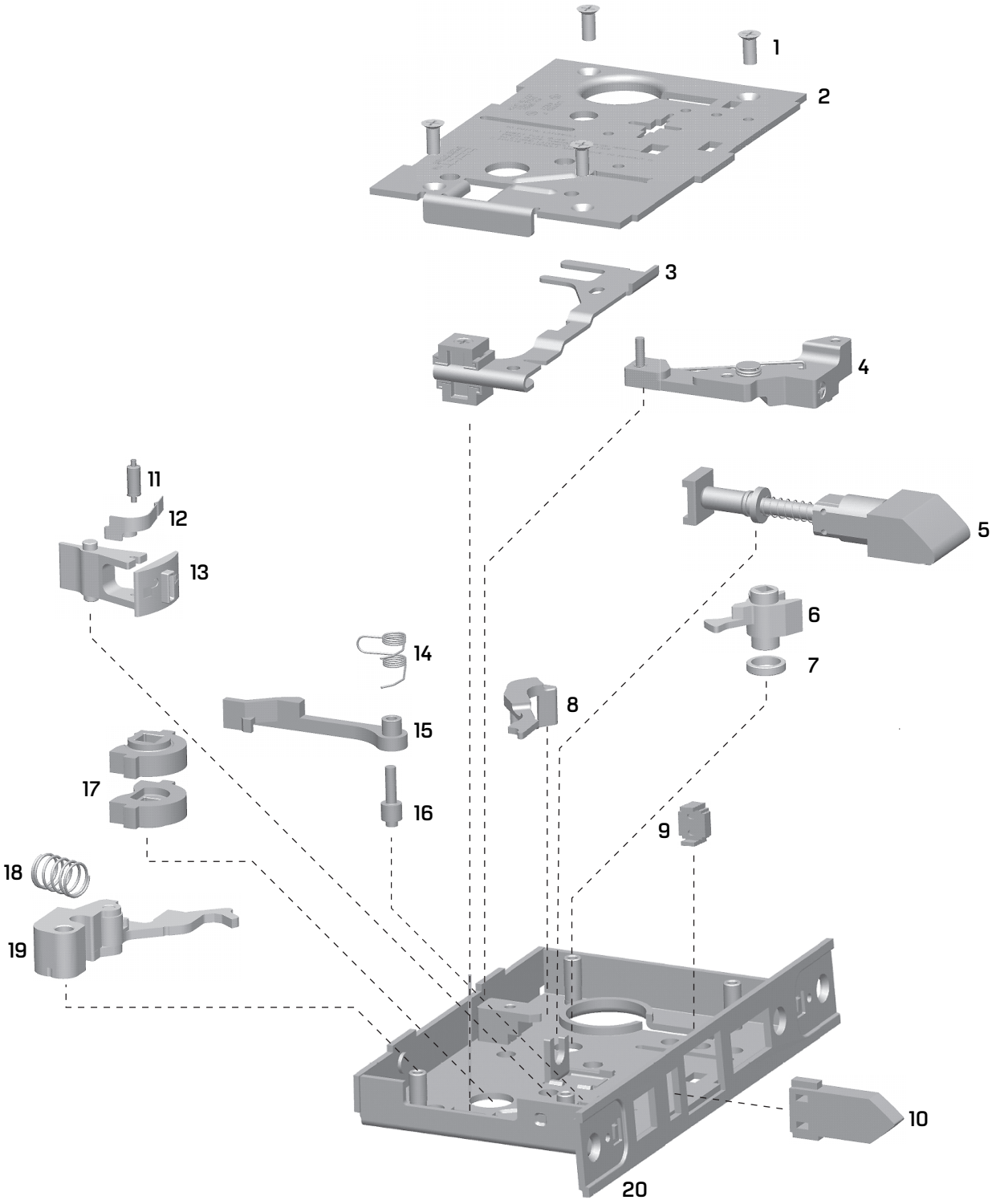


Figure 4.5 NX function case exploded diagram

NX function case parts list

Refer to Figure 4.5 and the table below to find the part you need.

Item	Part No.[a]	Qty.	Description
1	A34087	4	Case cover mounting screw
2	D44010	1	Cover
3	C45030	1	Locking lever and toggle assembly
4	B45040	1	Key release shuttle assembly
5	B45020	1	Latchbolt sub-assembly
6	C44106	1	Turn knob hub (non-deadbolt)
7	A34120	1	Turn knob hub spacer
8	C44110	1	Key release lever
9	B44166	1	Fusible link molded assembly
10	C44142	1	Auxiliary bolt
11	A44188	1	Toggle roller
12	B44190	1	Toggle lever spring
13	C44100	1	Toggle lever
14	B44194	1	Deadlocking lever spring
15	C44148	1	Deadlocking lever
16	A44184	1	Deadlocking lever pin
17	C44146	2	Hub
18	A44193	1	Release lever spring
19	C45010	1	Release lever sub-assembly
20	C45000	1	Case sub-assembly

a. For a complete case, use C45506. To order a "case only" lock, which includes a mortise case, faceplate, and strike, see page 4–62.

CHB FUNCTION CASE—HOLDBACK LOCK
RHB FUNCTION CASE—CLASSROOM HOLDBACK LOCK

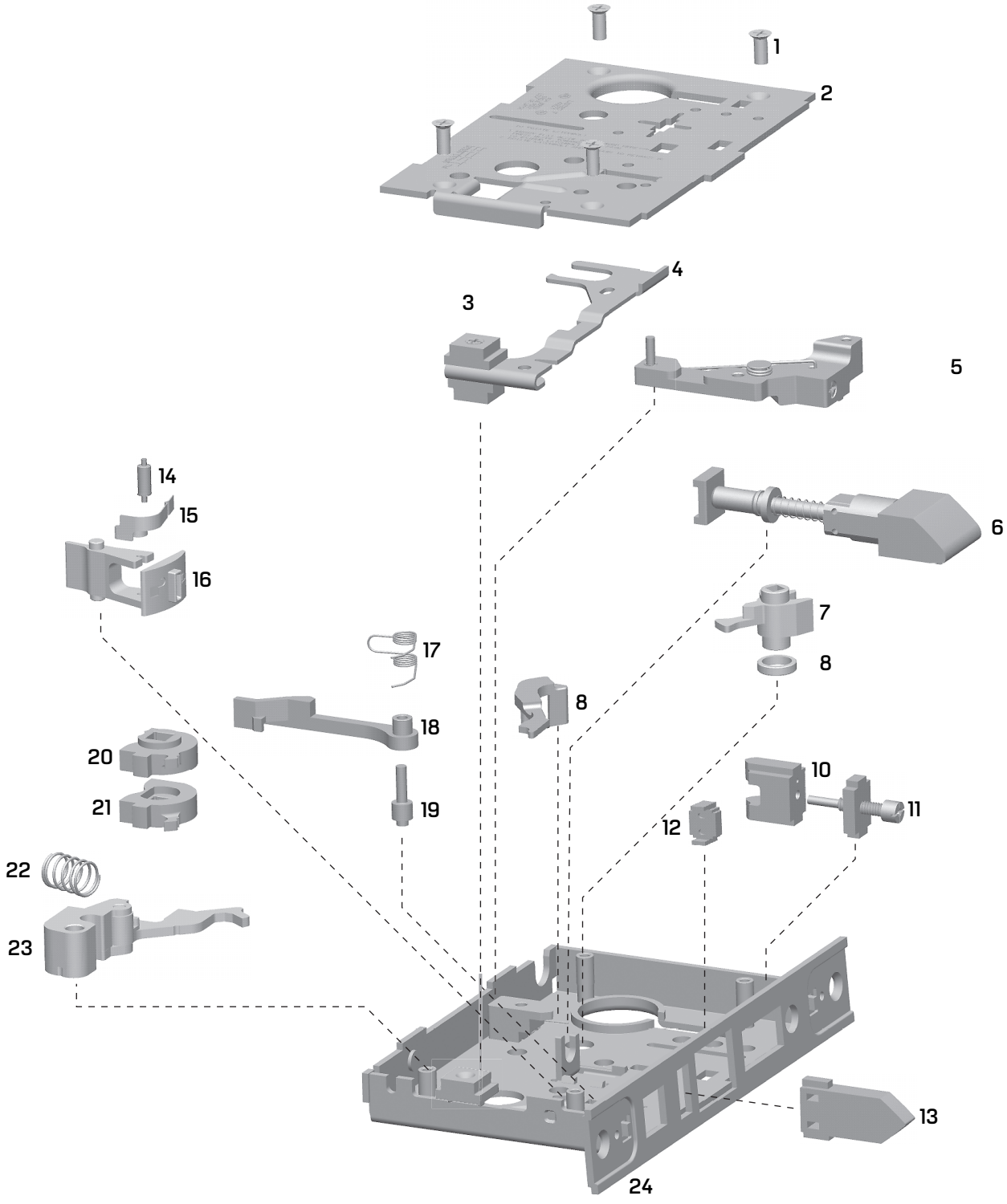


Figure 4.6 CHB, RHB function case exploded diagram

CHB, RHB function case parts list

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

Item	Part No.[a]	Qty.	Description
1	A34087	4	Case cover mounting screw
2	C44537	1	Holdback cover
3	B44535	2	Holdback locking toggle
4	C44054	1	Locking lever
5	B45040	1	Key release shuttle assembly
6	B45020	1	Latchbolt sub-assembly
7	C44106	1	Turn knob hub (non-deadbolt)
8	A34120	1	Turn knob hub spacer
9	C44110	1	Key release lever
10	C44144	1	Cylinder retainer
11	B45090	1	Cylinder retainer assembly
12	B44166	1	Fusible link molded assembly
13	C44142	1	Auxiliary bolt
14	A44188	1	Toggle roller
15	B44190	1	Toggle lever spring
16	C44100	1	Toggle lever
17	B44194	1	Deadlocking lever spring
18	C44148	1	Deadlocking lever
19	A44184	1	Deadlocking lever pin
20	C44532	1	Holdback hub LH
21	C44533	1	Holdback hub RH
22	A44193	1	Release lever spring
23	C45010	1	Release lever sub-assembly
24	C45002	1	Holdback case sub-assembly

a. For a complete case, use C45523. To order a "case only" lock, which includes a mortise case, faceplate, and strike, see page 4–62.

AB FUNCTION CASE—OFFICE LOCK

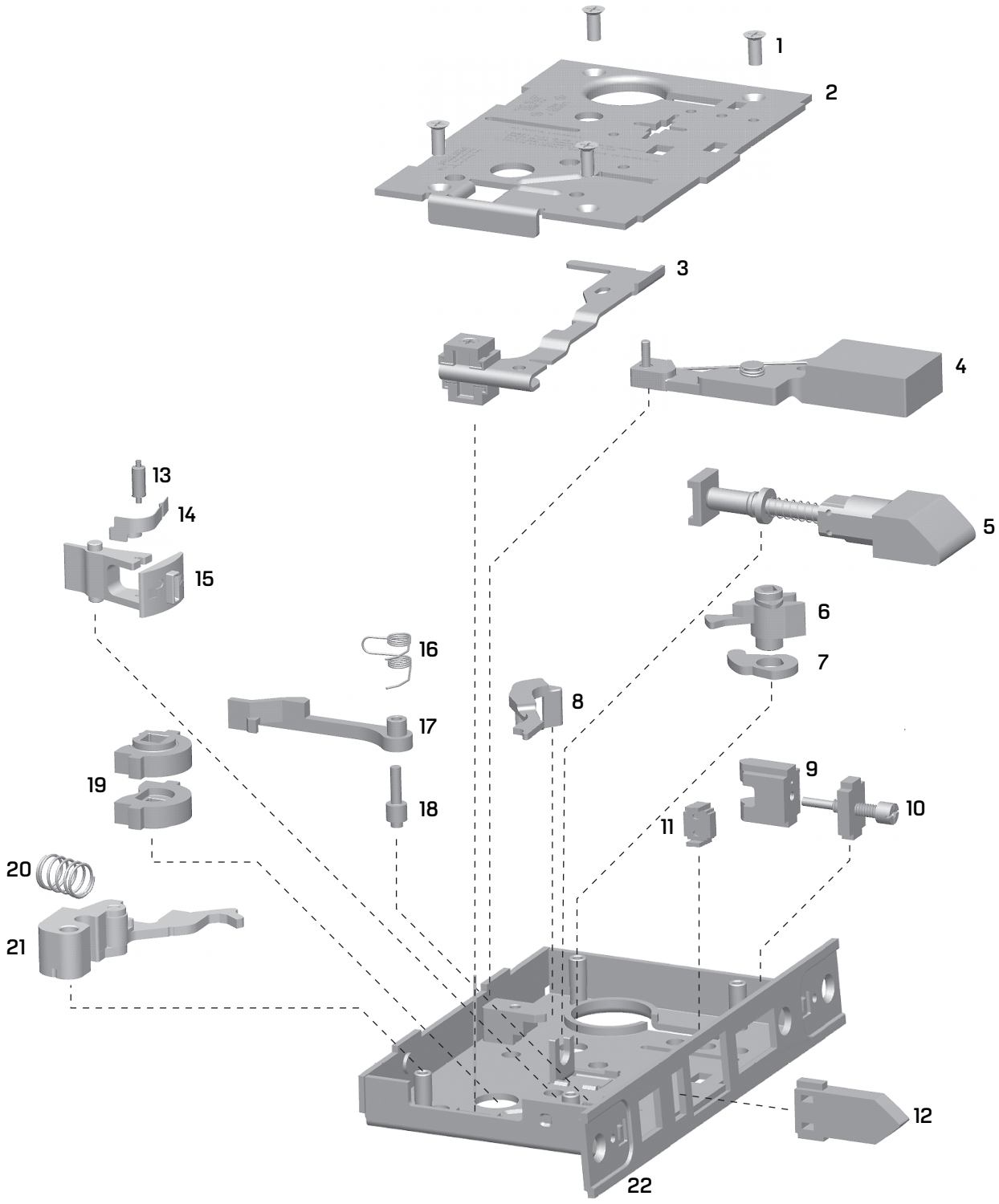


Figure 4.7 AB function case exploded diagram

AB function case parts list

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

Item	Part No.[a]	Qty.	Description
1	A34087	4	Case cover mounting screw
2	D44010	1	Cover
3	C45032	1	"F" locking lever sub-assembly
4	B45060	1	Deadbolt sub-assembly
5	B45020	1	Latchbolt sub-assembly
6	C44104	1	Turn knob hub (deadbolt)
7	B34032	1	Turn knob hub cam
8	C44110	1	Key release lever
9	C44144	1	Cylinder retainer
10	B45090	1	Cylinder retainer assembly
11	B44166	1	Fusible link molded assembly
12	C44142	1	Auxiliary bolt
13	A44188	1	Toggle roller
14	B44190	1	Toggle lever spring
15	C44100	1	Toggle lever
16	B44194	1	Deadlocking lever spring
17	C44148	1	Deadlocking lever
18	A44184	1	Deadlocking lever pin
19	C44146	2	Hub
20	A44193	1	Release lever spring
21	C45010	1	Release lever sub-assembly
22	C45000	1	Case sub-assembly

a. For a complete case, use C45502. To order a "case only" lock, which includes a mortise case, faceplate, and strike, see page 4–62.

B FUNCTION CASE—ENTRANCE LOCK

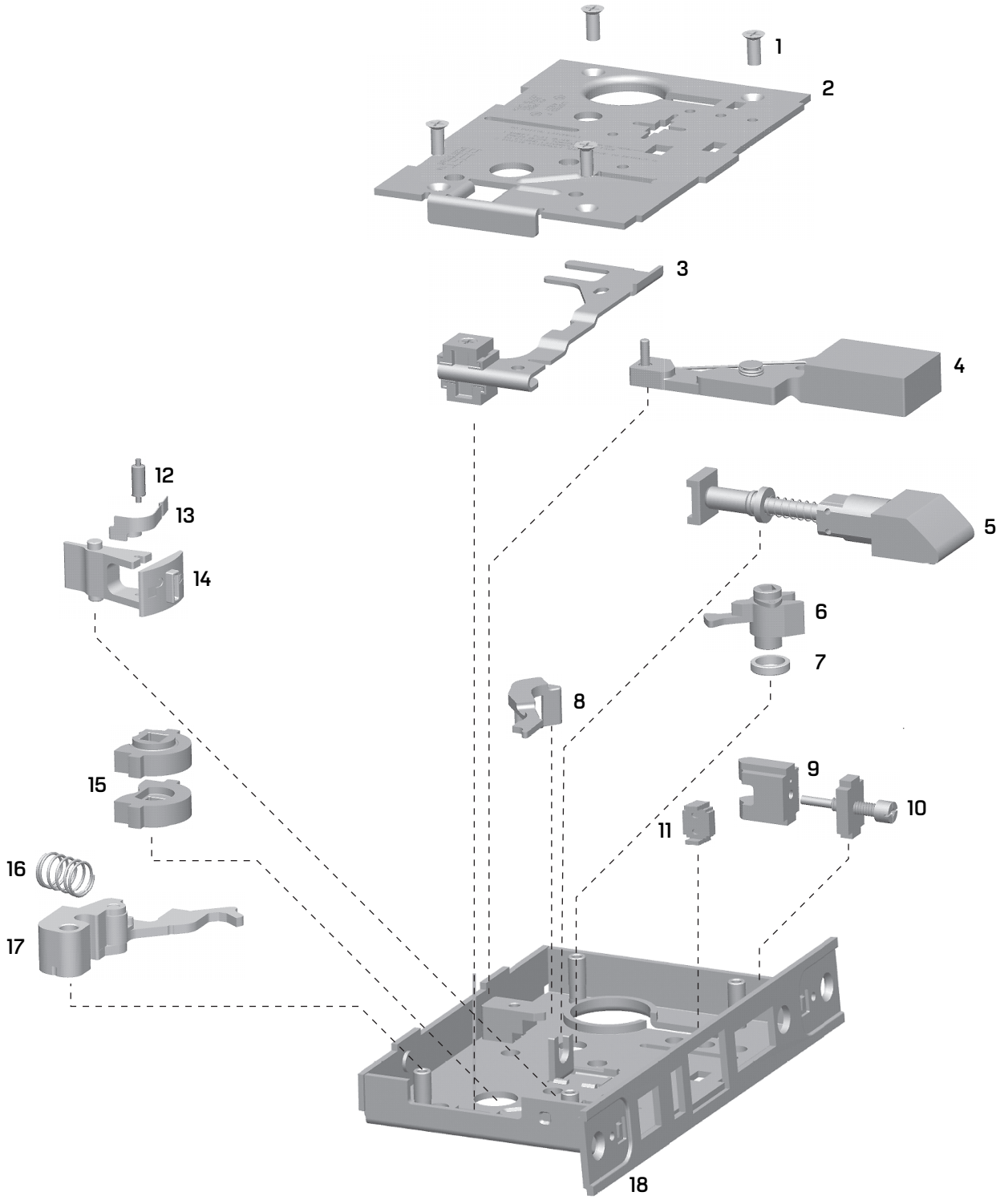


Figure 4.8 B function case exploded diagram

B function case parts list

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

Item	Part No.[a]	Qty.	Description
1	A34087	4	Case cover mounting screw
2	D44010	1	Cover
3	C45030	1	Locking lever and toggle assembly
4	B45060	1	Deadbolt sub-assembly
5	B45020	1	Latchbolt sub-assembly
6	C44104	1	Turn knob hub (deadbolt)
7	A34120	1	Turn knob hub spacer
8	C44110	1	Key release lever
9	C44144	1	Cylinder retainer
10	B45090	1	Cylinder retainer assembly
11	B44166	1	Fusible link molded assembly
12	A44188	1	Toggle roller
13	B44190	1	Toggle lever spring
14	C44100	1	Toggle lever
15	C44146	2	Hub
16	A44193	1	Release lever spring
17	C45010	1	Release lever sub-assembly
18	C45000	1	Case sub-assembly

a. For a complete case, use C45510. To order a "case only" lock, which includes a mortise case, faceplate, and strike, see page 4–62.

BA FUNCTION CASE—ENTRANCE LOCK
S FUNCTION CASE—STOREROOM LOCK

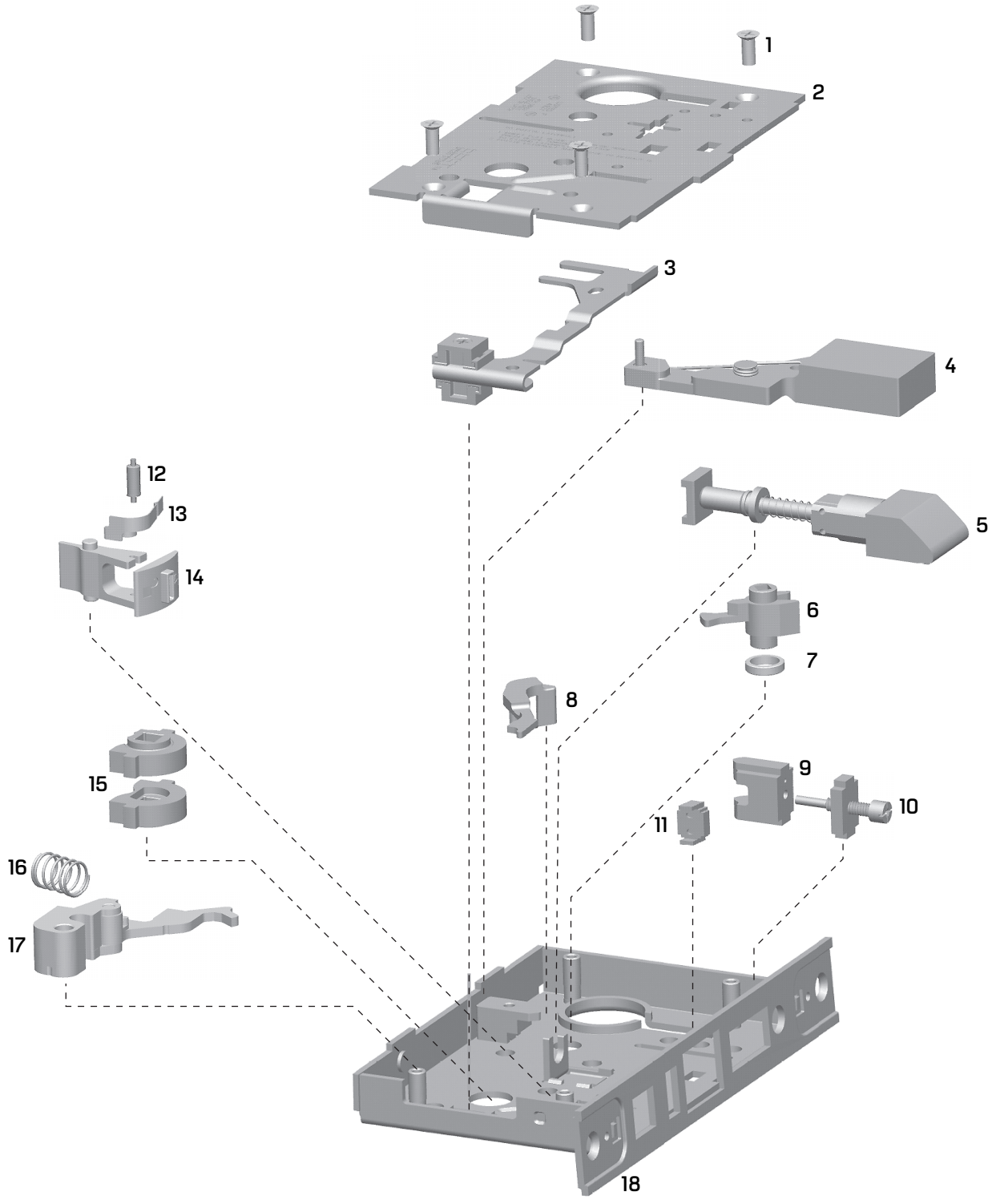


Figure 4.9 BA, S function case exploded diagram

BA, S function case parts list

Refer to Figure 4.9 and the table below to find the part you need.

Item	Part No.[a]	Qty.	Description
1	A34087	4	Case cover mounting screw
2	D44010	1	Cover
3	C45030	1	Locking lever and toggle assembly
4	B45060	1	Deadbolt sub-assembly
5	B45020	1	Latchbolt sub-assembly
6	C44108	1	Turn knob hub (lost motion)
7	A34120	1	Turn knob hub spacer
8	C44110	1	Key release lever
9	C44144	1	Cylinder retainer
10	B45090	1	Cylinder retainer assembly
11	B44166	1	Fusible link molded assembly
12	A44188	1	Toggle roller
13	B44190	1	Toggle lever spring
14	C44100	1	Toggle lever
15	C44146	2	Hub
16	A44193	1	Release lever spring
17	C45010	1	Release lever sub-assembly
18	C45000	1	Case sub-assembly

a. For a complete case, use C45517. To order a "case only" lock, which includes a mortise case, faceplate, and strike, see page 4–62.

BW FUNCTION CASE—ENTRANCE LOCK

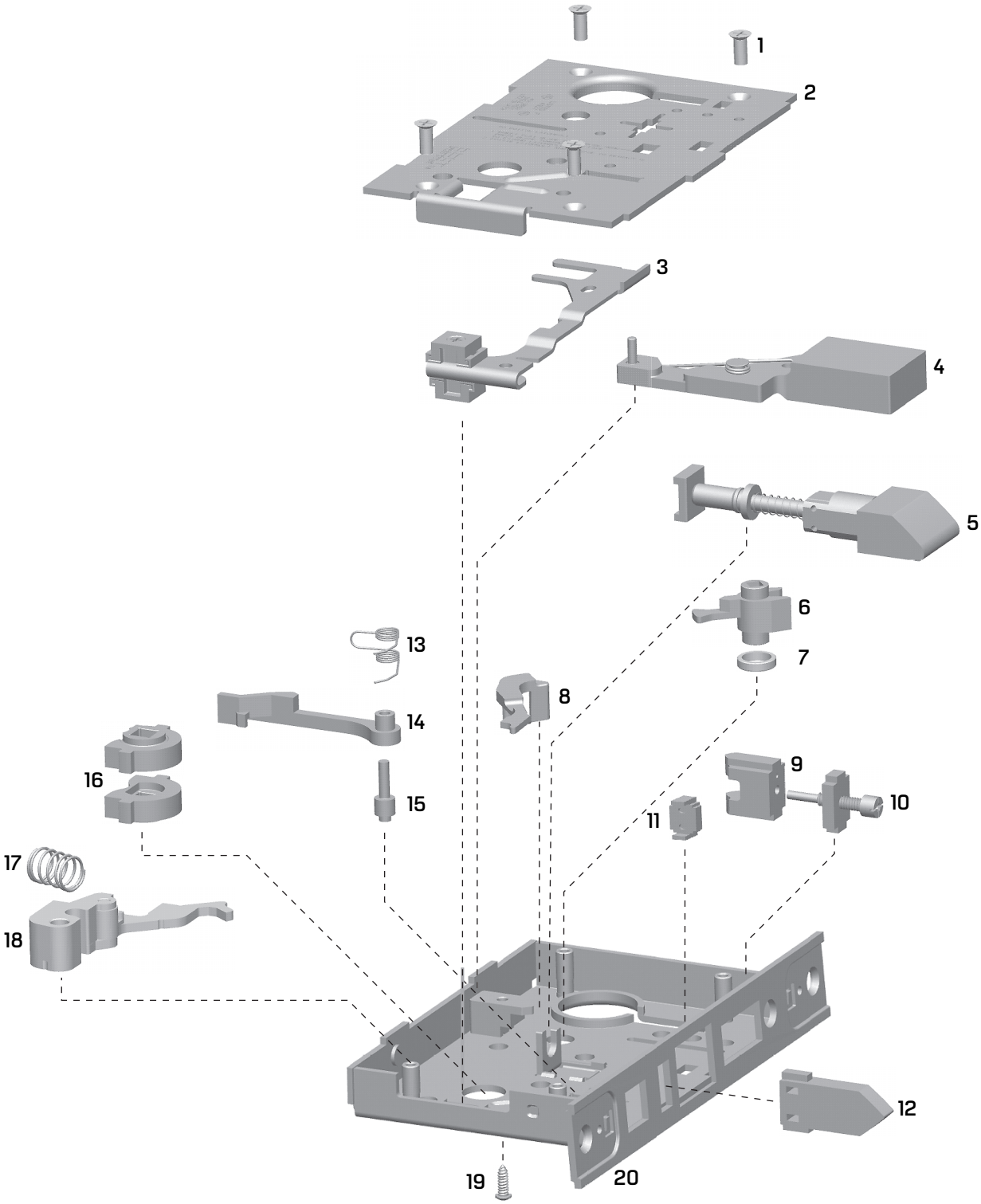


Figure 4.10 BW function case exploded diagram

BW function case parts list

Refer to Figure 4.10 and the table below to find the part you need.

Item	Part No.[a]	Qty.	Description
1	A34087	4	Case cover mounting screw
2	D44010	1	Cover
3	C45030	1	Locking lever and toggle assembly
4	B45060	1	Deadbolt sub-assembly
5	B45020	1	Latchbolt sub-assembly
6	C44108	1	Turn knob hub (lost motion)
7	A34120	1	Turn knob hub spacer
8	C44110	1	Key release lever
9	C44144	1	Cylinder retainer
10	B45090	1	Cylinder retainer assembly
11	B44166	1	Fusible link molded assembly
12	C44142	1	Auxiliary bolt
13	B44194	1	Deadlocking lever spring
14	C44148	1	Deadlocking lever
15	A44184	1	Deadlocking lever pin
16	C44146	2	Hub
17	A44193	1	Release lever spring
18	C45010	1	Release lever sub-assembly
19	A44234	1	Self tapping screw
20	C45000	1	Case sub-assembly

a. For a complete case, use C45518. To order a "case only" lock, which includes a mortise case, faceplate, and strike, see page 4–62.

G FUNCTION CASE—COMMUNICATING LOCK
B5 FUNCTION CASE—ENTRANCE LOCK B7
FUNCTION CASE—ENTRANCE LOCK

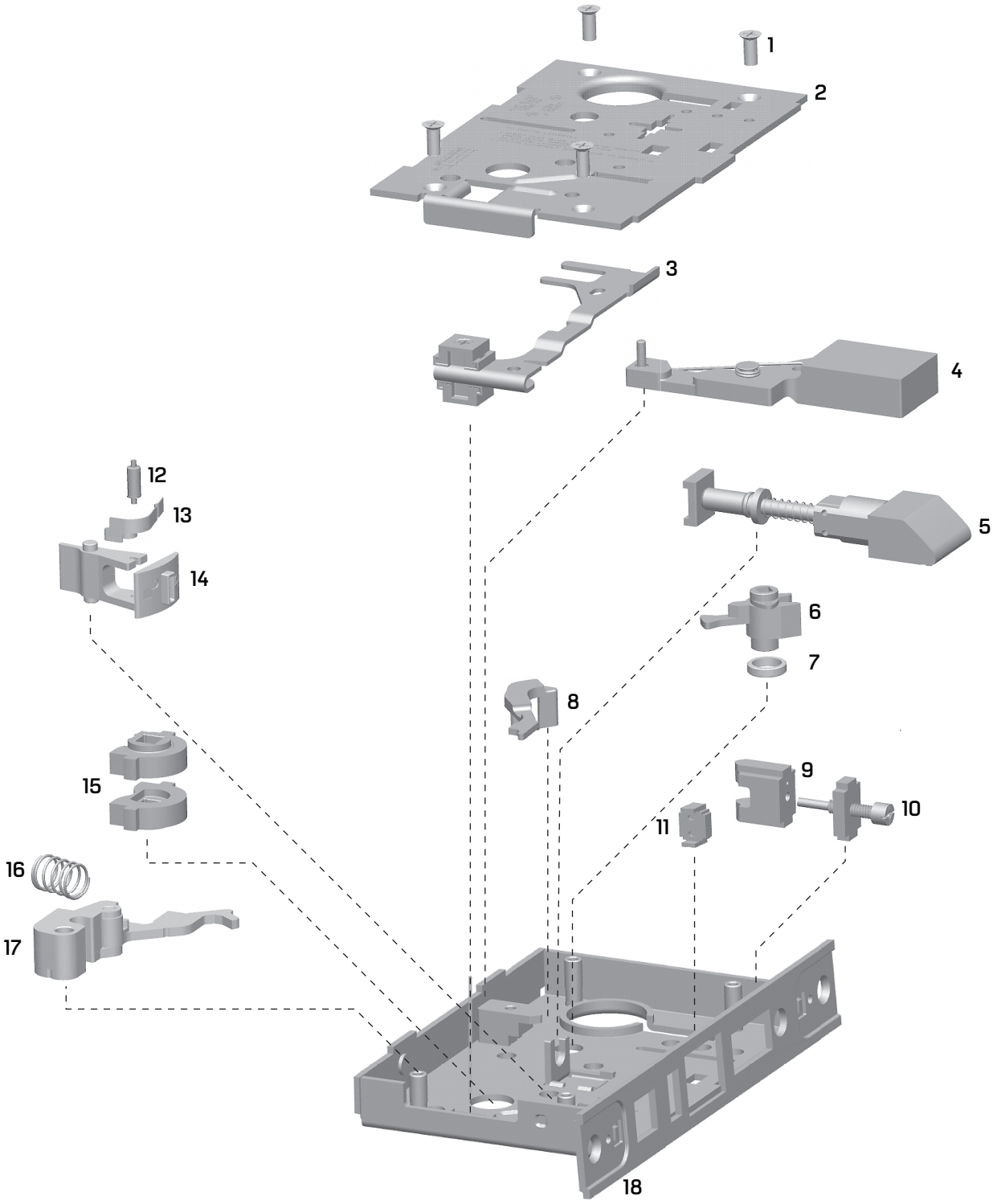


Figure 4.11 G, B5, B7 function case exploded diagram

G, B5, B7, function case parts list

Refer to Figure 4.11 and the table below to find the part you need.

Item	Part No.[a]	Qty.	Description
1	A34087	4	Case cover mounting screw
2	D44010	1	Cover
3	C45030	1	Locking lever and toggle assembly
4	B45060	1	Deadbolt sub-assembly
5	B45020	1	Latchbolt sub-assembly
6	C44104	1	Turn knob hub (deadbolt)
7	A34120	1	Turn knob hub spacer
8	C44110	1	Key release lever
9	C44144	1	Cylinder retainer
10	B45090	1	Cylinder retainer assembly
11	B44166	1	Fusible link molded assembly
12	A44188	1	Toggle roller
13	B44190	1	Toggle lever spring
14	C44100	1	Toggle lever
15	C44146	2	Hub
16	A44193	1	Release lever spring
17	C45010	1	Release lever sub-assembly
18	C45000	1	Case sub-assembly

a. For a complete case, use C45508. To order a "case only" lock, which includes a mortise case, faceplate, and strike, see page 4–62.

H FUNCTION CASE—HOTEL LOCK
HJ FUNCTION CASE—HOTEL LOCK
TD FUNCTION CASE—DORMITORY LOCK

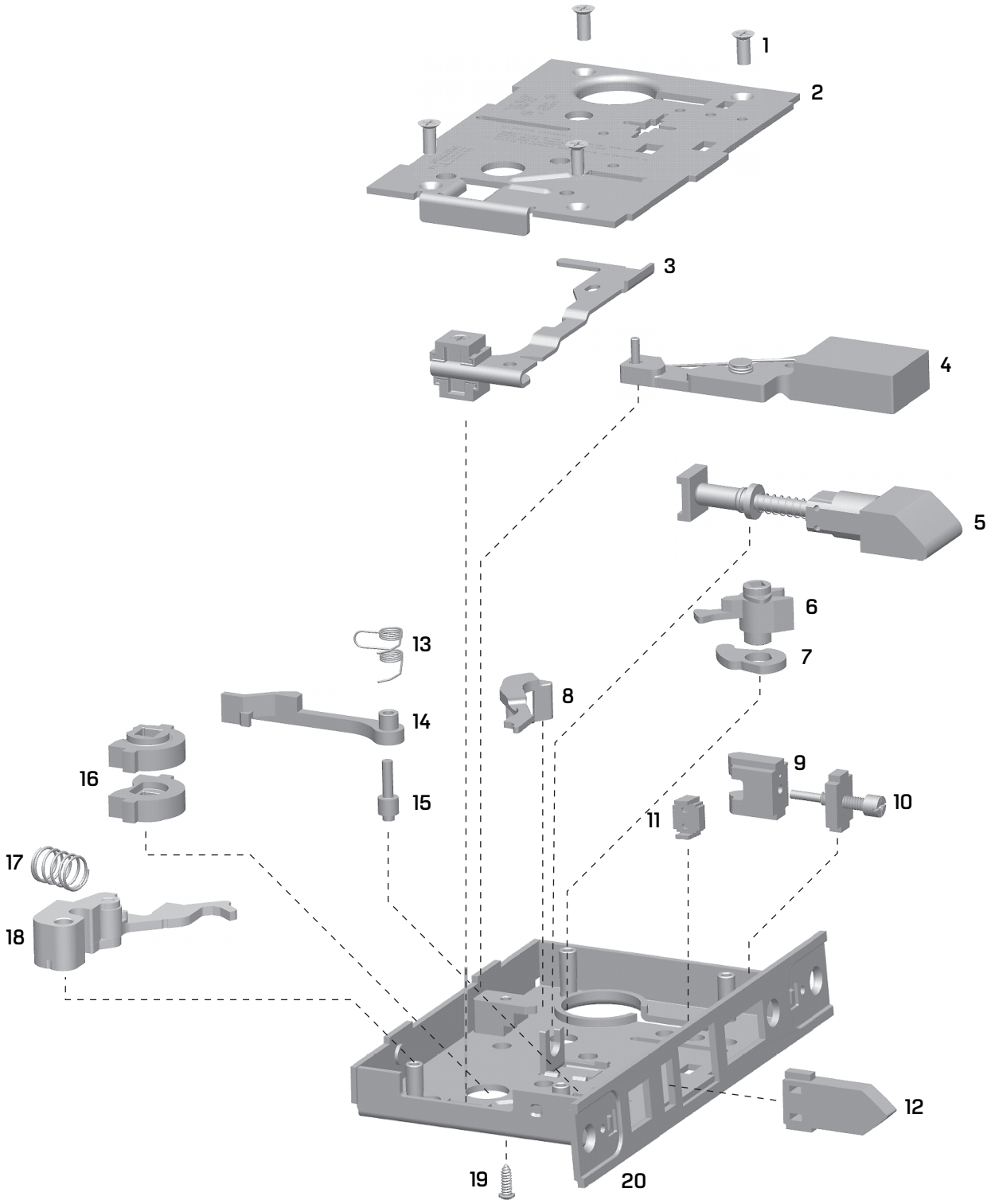


Figure 4.12 H, HJ, TD function case exploded diagram

H, HJ, TD function case parts list

Refer to Figure 4.12 and the table below to find the part you need.

Item	Part No.[a]	Qty.	Description
1	A34087	4	Case cover mounting screw
2	D44010	1	Cover
3	C45032	1	"F" Locking lever sub-assembly
4	B45060	1	Deadbolt sub-assembly
5	B45020	1	Latchbolt sub-assembly
6	C44104	1	Turn knob hub (deadbolt)
7	B34032	1	Turn knob hub cam
8	C44110	1	Key release lever
9	C44144	1	Cylinder retainer
10	B45090	1	Cylinder retainer assembly
11	B44166	1	Fusible link molded assembly
12	C44142	1	Auxiliary bolt
13	B44194	1	Deadlocking lever spring
14	C44148	1	Deadlocking lever
15	A44184	1	Deadlocking lever pin
16	C44146	2	Hub
17	A44193	1	Release lever spring
18	C45010	1	Release lever sub-assembly
19	A44234	1	Self tapping screw
20	C45000	1	Case sub-assembly

a. For a complete case, use C45516. To order a "case only" lock, which includes a mortise case, faceplate, and strike, see page 4–62.

IND FUNCTION CASE—INTRUDER LOCK
T FUNCTION CASE—DORMITORY LOCK

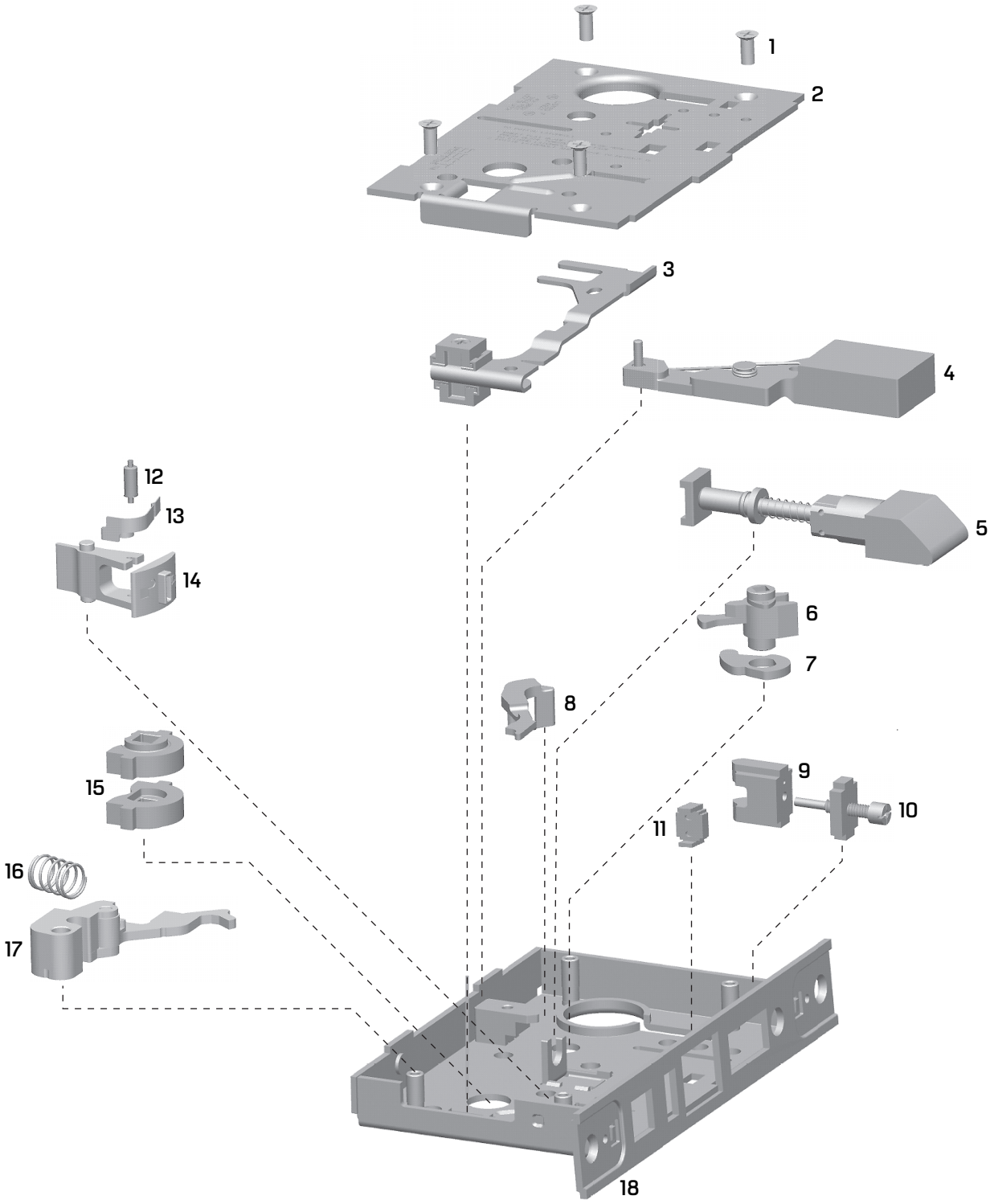


Figure 4.13 IND, T function case exploded diagram

IND, T case parts list

Refer to Figure 4.13 and the table below to find the part you need.

Item	Part No.[a]	Qty.	Description
1	A34087	4	Case cover mounting screw
2	D44010	1	Cover
3	C45030	1	Locking lever and toggle assembly
4	B45060	1	Deadbolt sub-assembly
5	B45020	1	Latchbolt sub-assembly
6	C44104	1	Turn knob hub (deadbolt)
7	B34032	1	Turn knob hub cam
8	C44110	1	Key release lever
9	C44144	1	Cylinder retainer
10	B45090	1	Cylinder retainer assembly
11	B44166	1	Fusible link molded assembly
12	A44188	1	Toggle roller
13	B44190	1	Toggle lever spring
14	C44100	1	Toggle lever
15	C44146	2	Hub
16	A44193	1	Release lever spring
17	C45010	1	Release lever sub-assembly
18	C45000	1	Case sub-assembly

a. For a complete case, use C45500. To order a "case only" lock, which includes a mortise case, faceplate, and strike, see page 4–62.

L FUNCTION CASE—PRIVACY LOCK

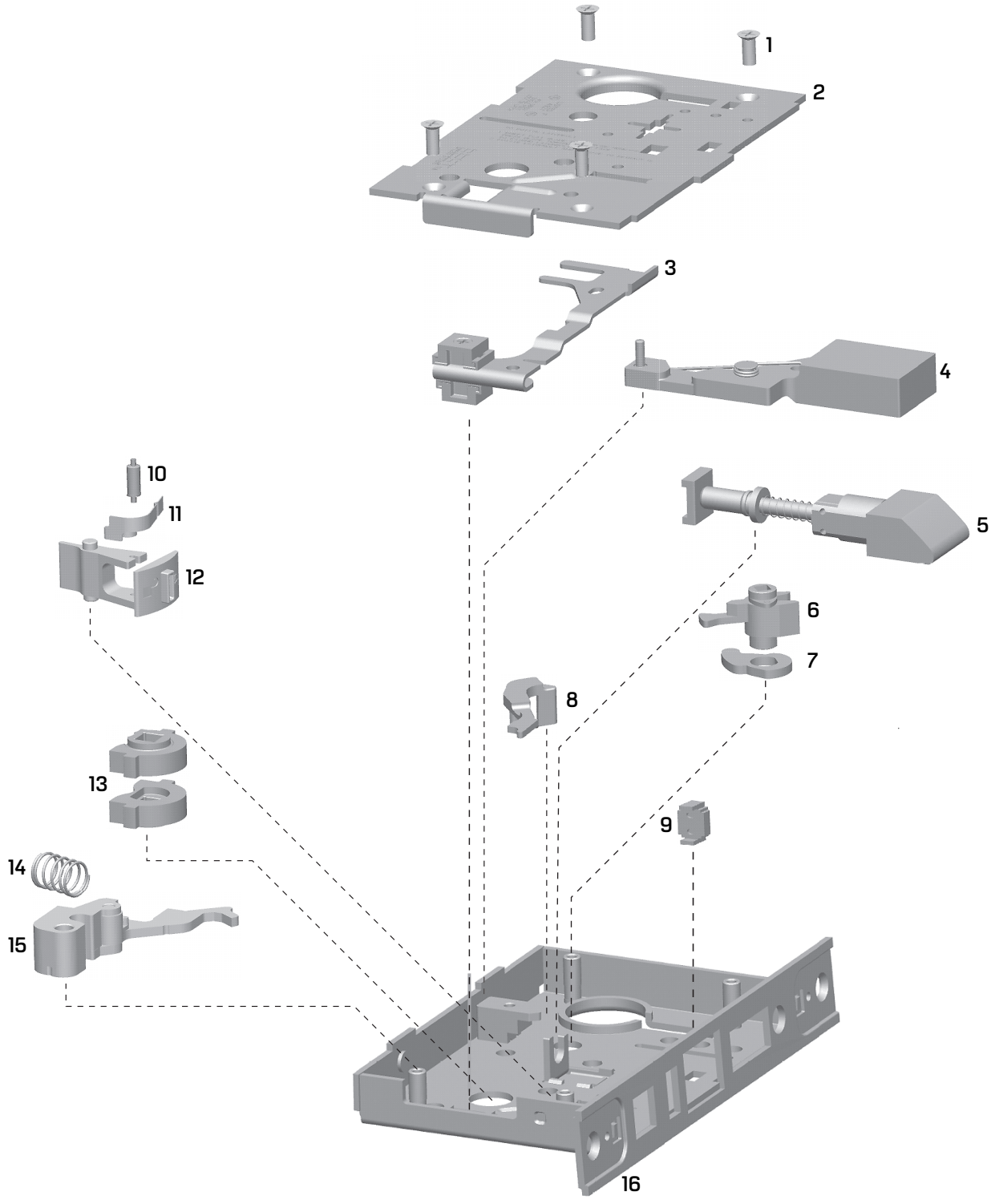


Figure 4.14 L function case exploded diagram

L function case parts list

Refer to Figure 4.14 and the table below to find the part you need.

Item	Part No.[a]	Qty.	Description
1	A34087	4	Case cover mounting screw
2	D44010	1	Cover
3	C45030	1	Locking lever and toggle assembly
4	B45060	1	Deadbolt sub-assembly
5	B45020	1	Latchbolt sub-assembly
6	C44104	1	Turn knob hub (deadbolt)
7	B34032	1	Turn knob hub cam
8	C44110	1	Key release lever
9	B44166	1	Fusible link molded assembly
10	A44188	1	Toggle roller
11	B44190	1	Toggle lever spring
12	C44100	1	Toggle lever
13	C44146	2	Hub
14	A44193	1	Release lever spring
15	C45010	1	Release lever sub-assembly
16	C45000	1	Case sub-assembly

a. For a complete case, use C45509. To order a "case only" lock, which includes a mortise case, faceplate, and strike, see page 4–62.

LB FUNCTION CASE—PRIVACY LOCK

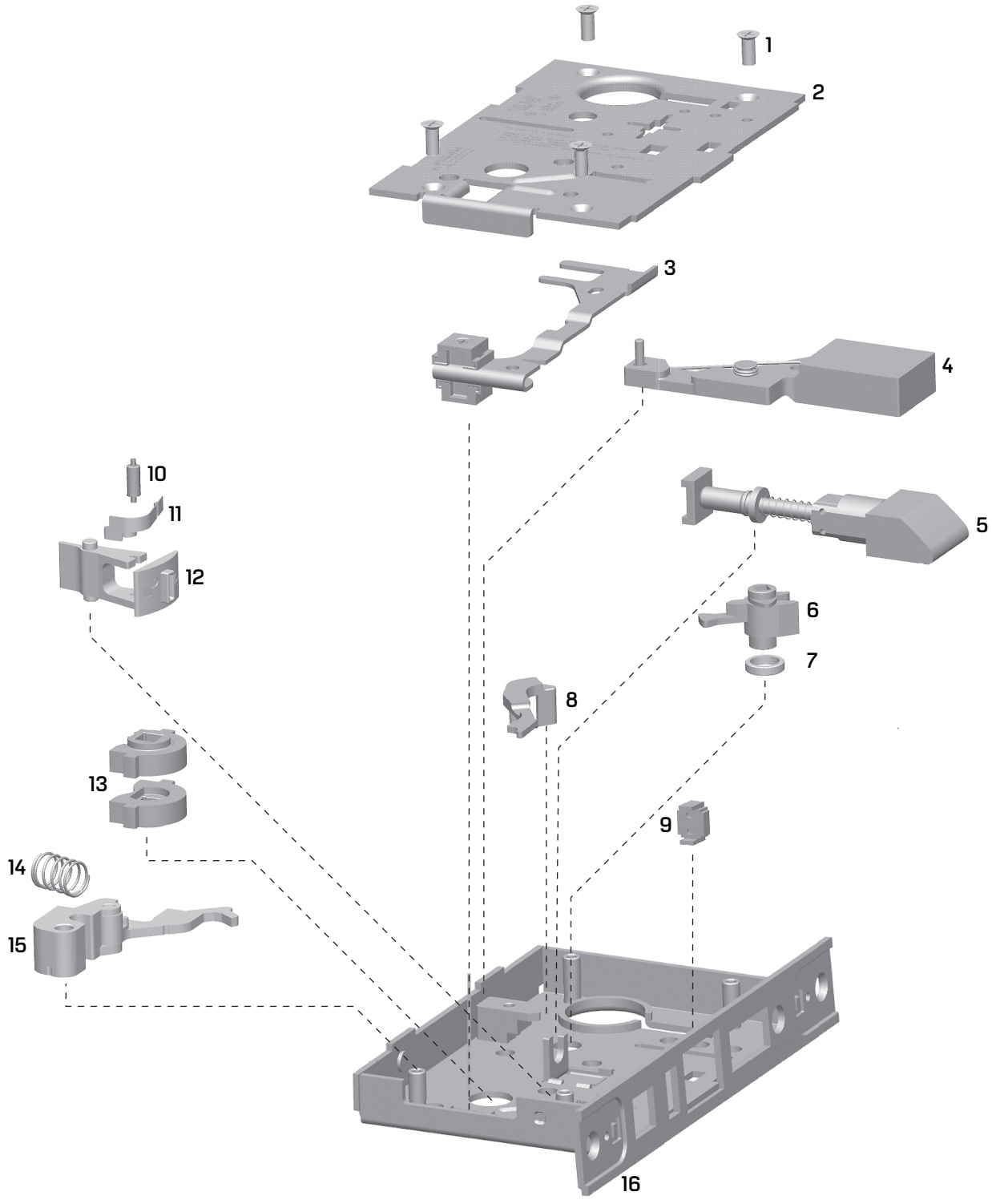


Figure 4.15 LB function case exploded diagram

LB function case parts list

Refer to Figure 4.15 and the table below to find the part you need.

Item	Part No.[a]	Qty.	Description
1	A34087	4	Case cover mounting screw
2	D44010	1	Cover
3	C45030	1	Locking lever and toggle assembly
4	B45060	1	Deadbolt sub-assembly
5	B45020	1	Latchbolt sub-assembly
6	C44104	1	Turn knob hub (deadbolt)
7	A34120	1	Turn knob hub spacer
8	C44110	1	Key release lever
9	B44166	1	Fusible link molded assembly
10	A44188	1	Toggle roller
11	B44190	1	Toggle lever spring
12	C44100	1	Toggle lever
13	C44146	2	Hub
14	A44193	1	Release lever spring
15	C45010	1	Release lever sub-assembly
16	C45000	1	Case sub-assembly

a. For a complete case, use C45511. To order a "case only" lock, which includes a mortise case, faceplate, and strike, see page 4–62.

TA FUNCTION CASE—DORMITORY LOCK

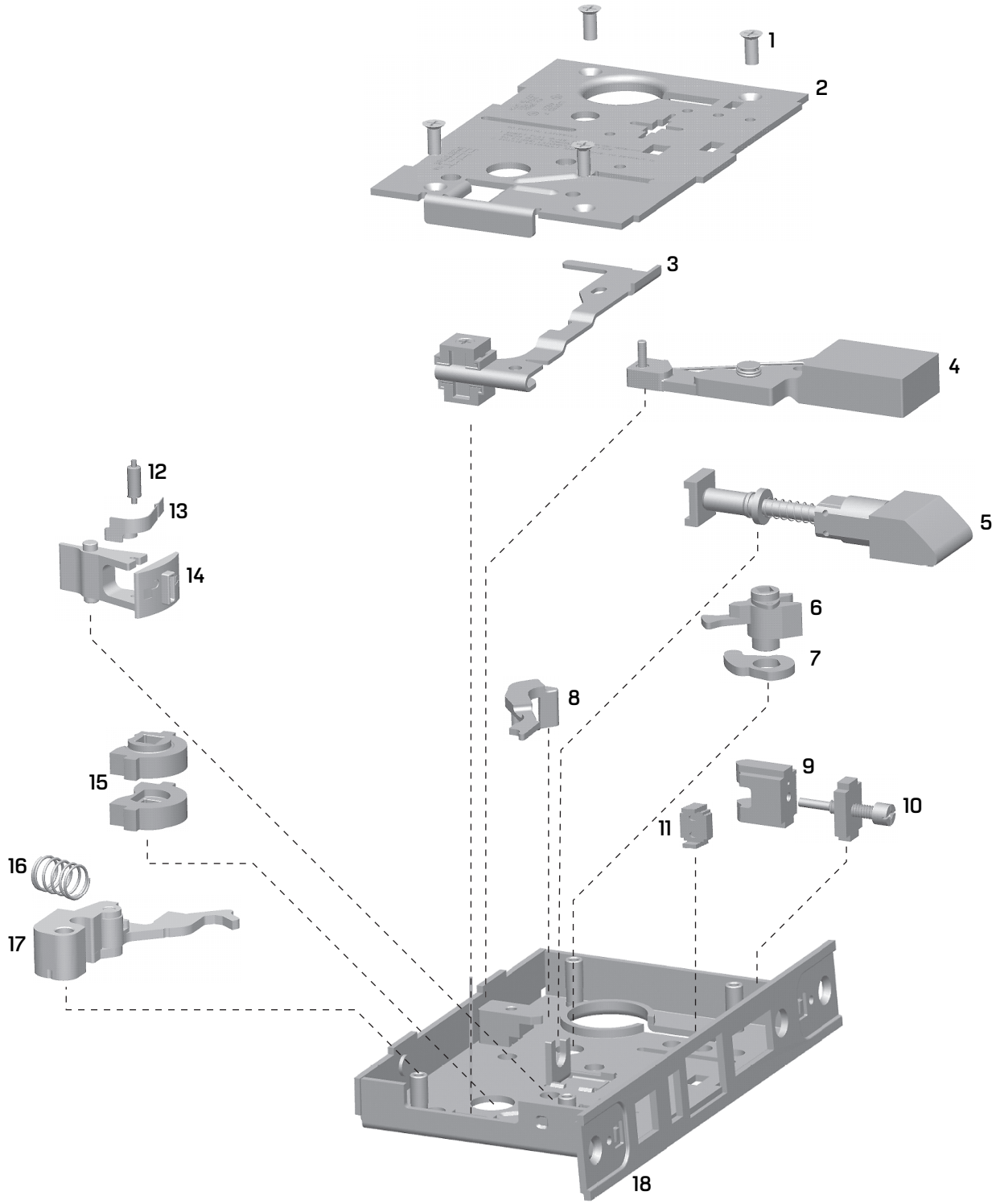


Figure 4.16 TA function case exploded diagram

TA function case parts list

Refer to Figure 4.16 and the table below to find the part you need.

Item	Part No.[a]	Qty.	Description
1	A34087	4	Case cover mounting screw
2	D44010	1	Cover
3	C45032	1	"F" Locking lever sub-assembly
4	B45060	1	Deadbolt sub-assembly
5	B45020	1	Latchbolt sub-assembly
6	C44104	1	Turn knob hub (deadbolt)
7	B34032	1	Turn knob hub cam
8	C44110	1	Key release lever
9	C44144	1	Cylinder retainer
10	B45090	1	Cylinder retainer assembly
11	B44166	1	Fusible link molded assembly
12	A44188	1	Toggle roller
13	B44190	1	Toggle lever spring
14	C44100	1	Toggle lever
15	C44146	2	Hub
16	A44193	1	Release lever spring
17	C45010	1	Release lever sub-assembly
18	C45000	1	Case sub-assembly

a. For a complete case, use C45515. To order a "case only" lock, which includes a mortise case, faceplate, and strike, see page 4–62.

AD FUNCTION CASE—DEADLOCK
WD FUNCTION CASE—DEADLOCK
YD FUNCTION CASE—DEADLOCK

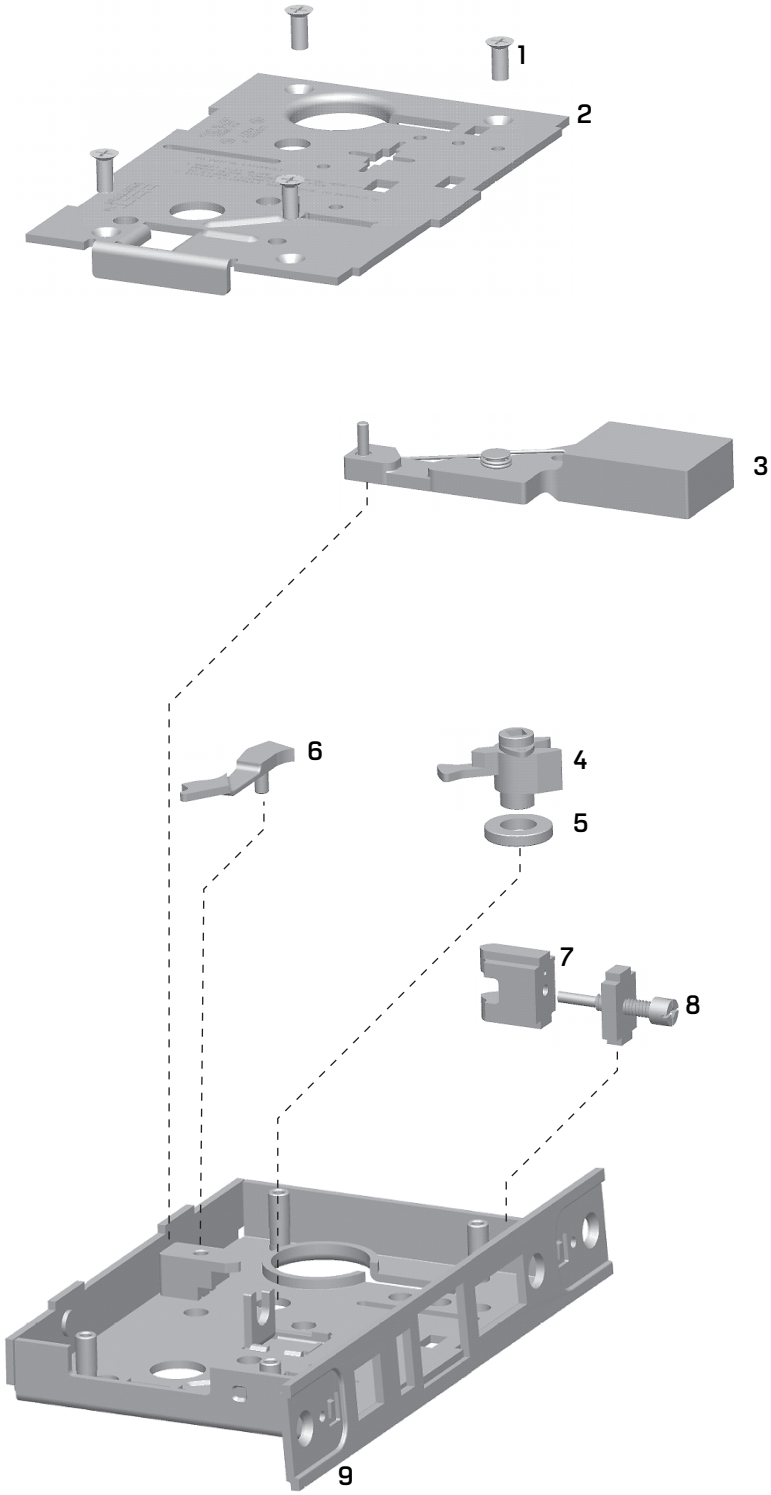


Figure 4.17 AD, WD, YD function case exploded diagram

AD, WD, YD function case parts list

Refer to Figure 4.17 and the table below to find the part you need.

Item	Part No.[a]	Qty.	Description
1	A34087	4	Case cover mounting screw
2	D44010	1	Cover
3	B45060	1	Deadbolt sub-assembly
4	C44104	1	Turn knob hub (deadbolt)
5	A34194	1	Spacer for 38/39H
6	C44111	1	Modified key release lever
7	C44144	1	Cylinder retainer
8	B45090	1	Cylinder retainer assembly
9	C45000	1	Case sub-assembly

a. For a complete case, use C45512. To order a "case only" lock, which includes a mortise case, faceplate, and strike, see page 4–62.

RD FUNCTION CASE—CLASSROOM DEADLOCK

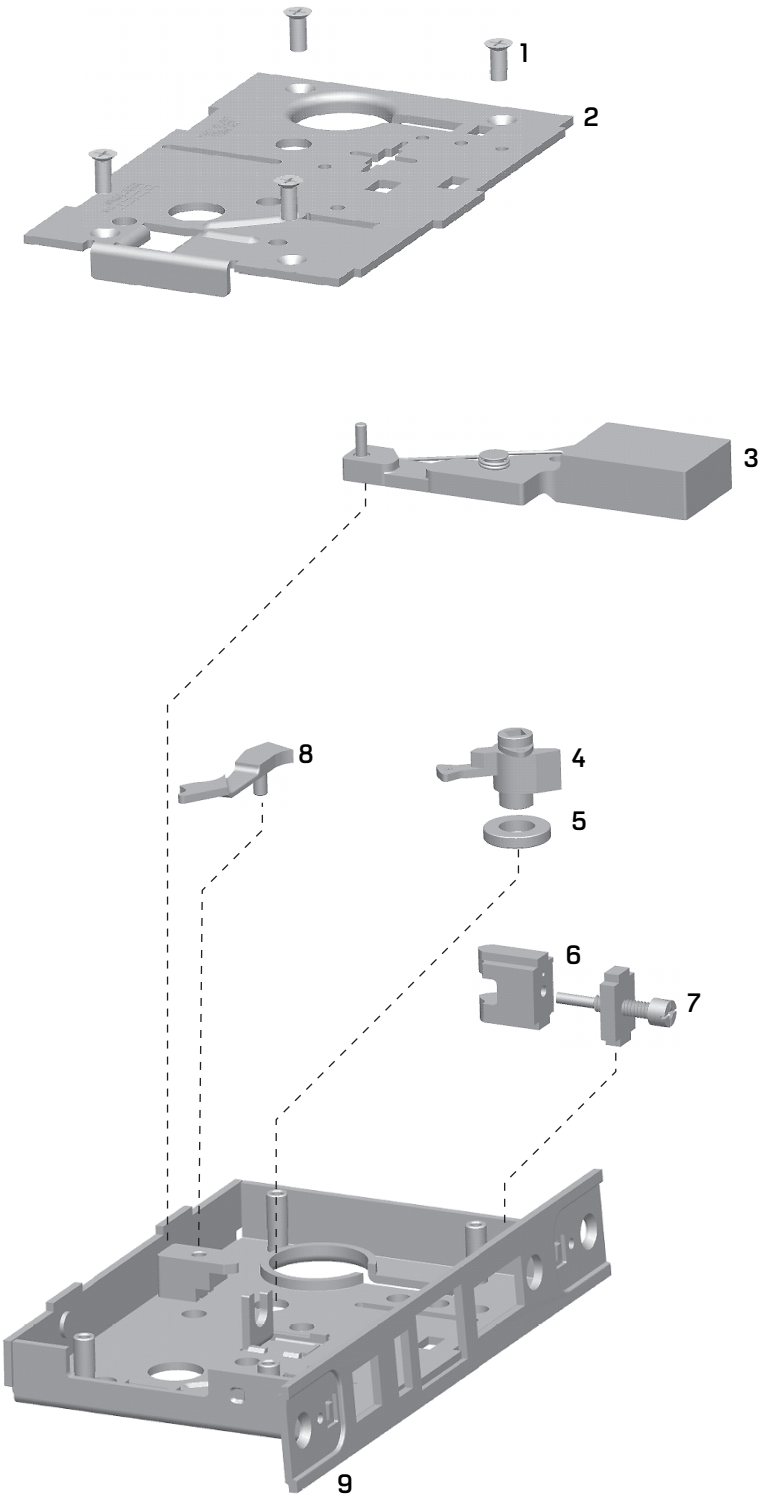


Figure 4.18 RD function case exploded diagram

RD function case parts list

Refer to Figure 4.18 and the table below to find the part you need.

Item	Part No.[a]	Qty.	Description
1	A34087	4	Case cover mounting screw[b]
2	D44010	1	Cover
3	B45060	1	Deadbolt sub-assembly
4	C44107	1	Turn knob hub (deadbolt – machined for RD (RH))
not shown	C44109	1	Turn knob hub (deadbolt – machined for RD (LH))
5	A34194	1	Spacer for 38/39H
6	C44144	1	Cylinder retainer
7	B45090	1	Cylinder retainer assembly
8	C44111	1	Modified key release lever
9	C45000	1	Case sub-assembly

a. For a complete RD (RH) function case, use C45513.
For a complete RD (LH) function case, use C45514.
To order a "case only" lock, which includes a mortise case, faceplate, and strike, see page 4–62.

b. For information to order screws, see page 5–18.

DEL FUNCTION CASE—ELECTRICALLY LOCKED FAIL SAFE LOCK

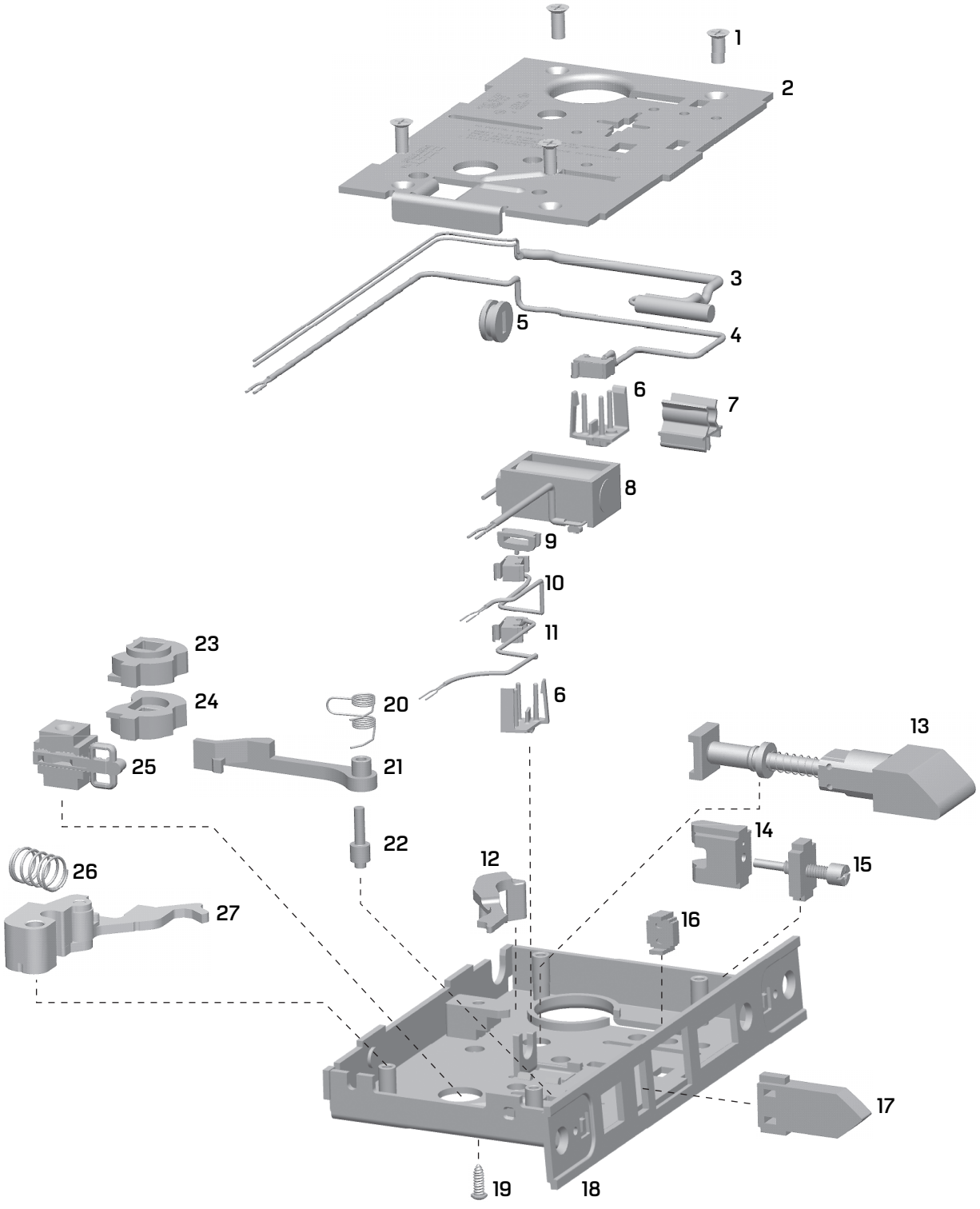


Figure 4.19 DEL function case exploded diagram

DEL function case parts list

Refer to Figure 4.19 and the table below to find the part you need.

Item	Part No.[a]	Qty.	Description
1	A34087	4	Case cover mounting screw
2	D44010	1	Cover
3	A60452	1	Door status switch
4	B44615	1	Latchbolt sensor switch assembly
5	A34236	1	Wire strain relief
6	B44602	2	RQE and latch status switch holder
7	A44601	1	Door position clip
8	B44613	1	12V solenoid
not shown	B44610	1	24V solenoid
9	A44622	1	Strain relief
10	B44616	1	RQE switch assembly (monitors cover side)
11	B44624	1	RQE switch assembly (monitors case side)
12	C44110	1	Key release lever
13	B45020	1	Latchbolt sub-assembly
14	C44144	1	Cylinder retainer
15	B45090	1	Cylinder retainer assembly
16	B44166	1	Fusible link molded assembly
17	C44142	1	Auxiliary bolt
18	C45000	1	Case sub-assembly
19	A44234	1	Self tapping screw
20	B44194	1	Deadlocking lever spring
21	C44148	1	Deadlocking lever
22	A44184	1	Deadlocking lever pin
23	C44539	1	Electrified hub (RH)
24	C44538	1	Electrified hub (LH)
25	b	1	Electronic locking toggle assembly
26	A44193	1	Release lever spring
27	C45010	1	Release lever sub-assembly

a. For a complete case, determine what type of solenoid and optional sensors you need. Then use the table below to find the part number for the case. To order a "case only" lock, which includes a mortise case, faceplate, and strike, see page 4–63.

Sensors			Case part number	
Door	Latch	RQE	12 V solenoid	24 V solenoid
■			C45710	C45711
	■		C45563	C45568
		■	C45564	C45569
■		■	C4556	C45567
	■	■	C45566	C45571
■	■	■	C45565	C45570

b. To obtain the parts for the electronic locking toggle assembly, order:
- locking slide (B44611)
- locking bar (A44612)
- electronic locking toggle (B44627)
- toggle screws (see *Screw kits* on page 5–19).

DEU FUNCTION CASE—ELECTRICALLY UNLOCKED FAIL SECURE

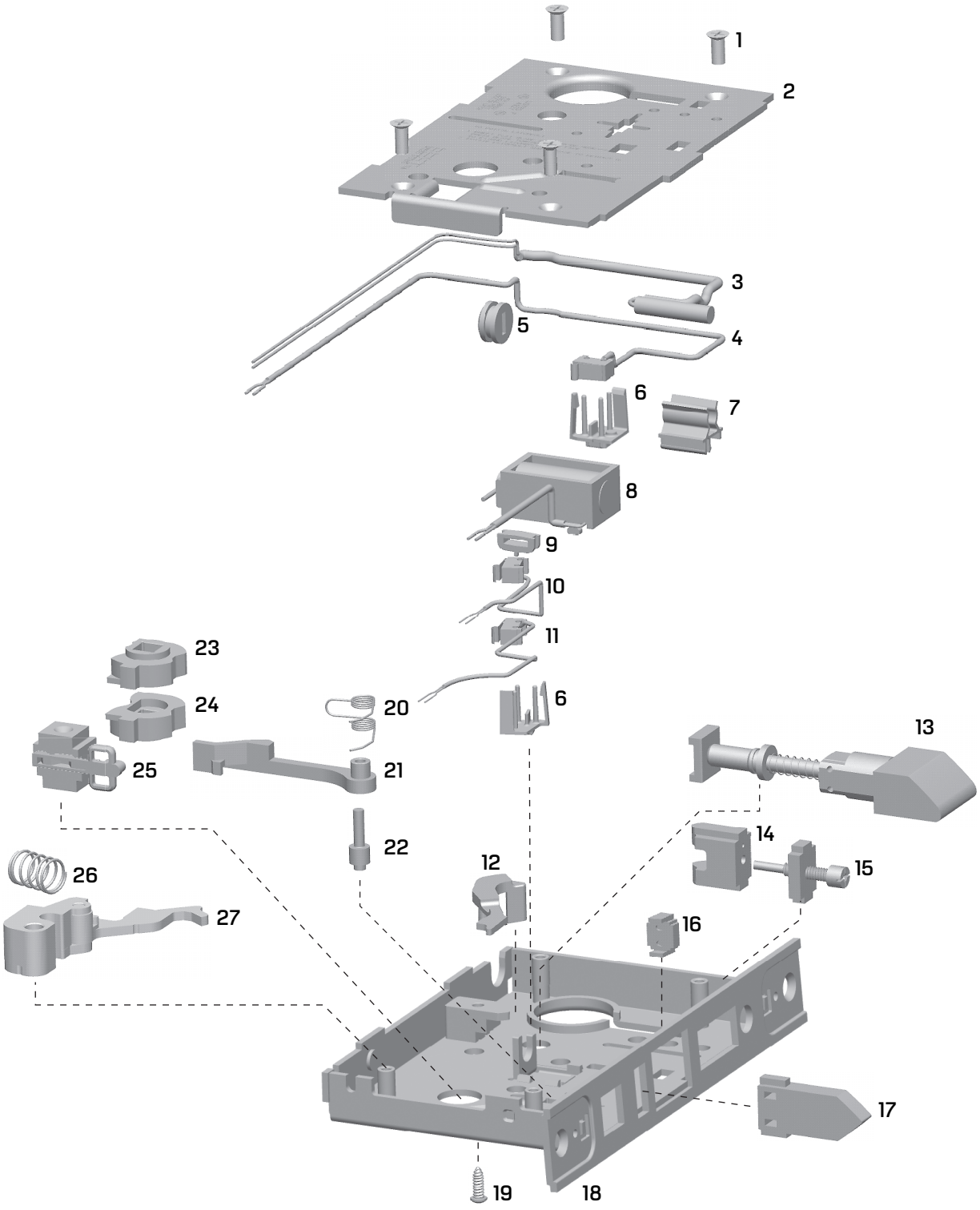


Figure 4.20 DEU function case exploded diagram

DEU function case parts list

Refer to Figure 4.20 and the table below to find the part you need.

Item	Part No.[a]	Qty.	Description
1	A34087	4	Case cover mounting screw
2	D44010	1	Cover
3	A60452	1	Door status switch
4	B44615	1	Latchbolt sensor switch assembly
5	A34236	1	Wire strain relief
6	B44602	2	RQE and latch status switch holder
7	A44601	1	Door position clip
8	B44613	1	12V solenoid
not shown	B44610	1	24V solenoid
9	A44622	1	Strain relief
10	B44616	1	RQE switch assembly (monitors cover side)
11	B44624	1	RQE switch assembly (monitors case side)
12	C44110	1	Key release lever
13	B45020	1	Latchbolt sub-assembly
14	C44144	1	Cylinder retainer
15	B45090	1	Cylinder retainer assembly
16	B44166	1	Fusible link molded assembly
17	C44142	1	Auxiliary bolt
18	C45000	1	Case sub-assembly
19	A44234	1	Self tapping screw
20	B44194	1	Deadlocking lever spring
21	C44148	1	Deadlocking lever
22	A44184	1	Deadlocking lever pin
23	C44539	1	Electrified hub (RH)
24	C44538	1	Electrified hub (LH)
25	[b]	1	Electronic locking toggle assembly
26	A44193	1	Release lever spring
27	C45010	1	Release lever sub-assembly

a. For a complete case, determine what type of solenoid and optional sensors you need. Then use the table below to find the part number for the case. To order a "case only" lock, which includes a mortise case, faceplate, and strike, see page 4–63.

Sensors			Case part number	
Door	Latch	RQE	12 V solenoid	24 V solenoid
■			C45708	C45709
	■		C45552	C45557
		■	C45553	C45558
	■	■	C45555	C45560
■		■	C45551	C45556
■	■	■	C45554	C45559

b. To obtain the parts for the electronic locking toggle assembly, order:
- locking slide (B44611)
- locking bar (A44612)
- electronic locking toggle (B44627)
- toggle screws (see *Screw kits* on page 5–19).

WEL FUNCTION CASE—ELECTRICALLY UNLOCKED FAIL SAFE

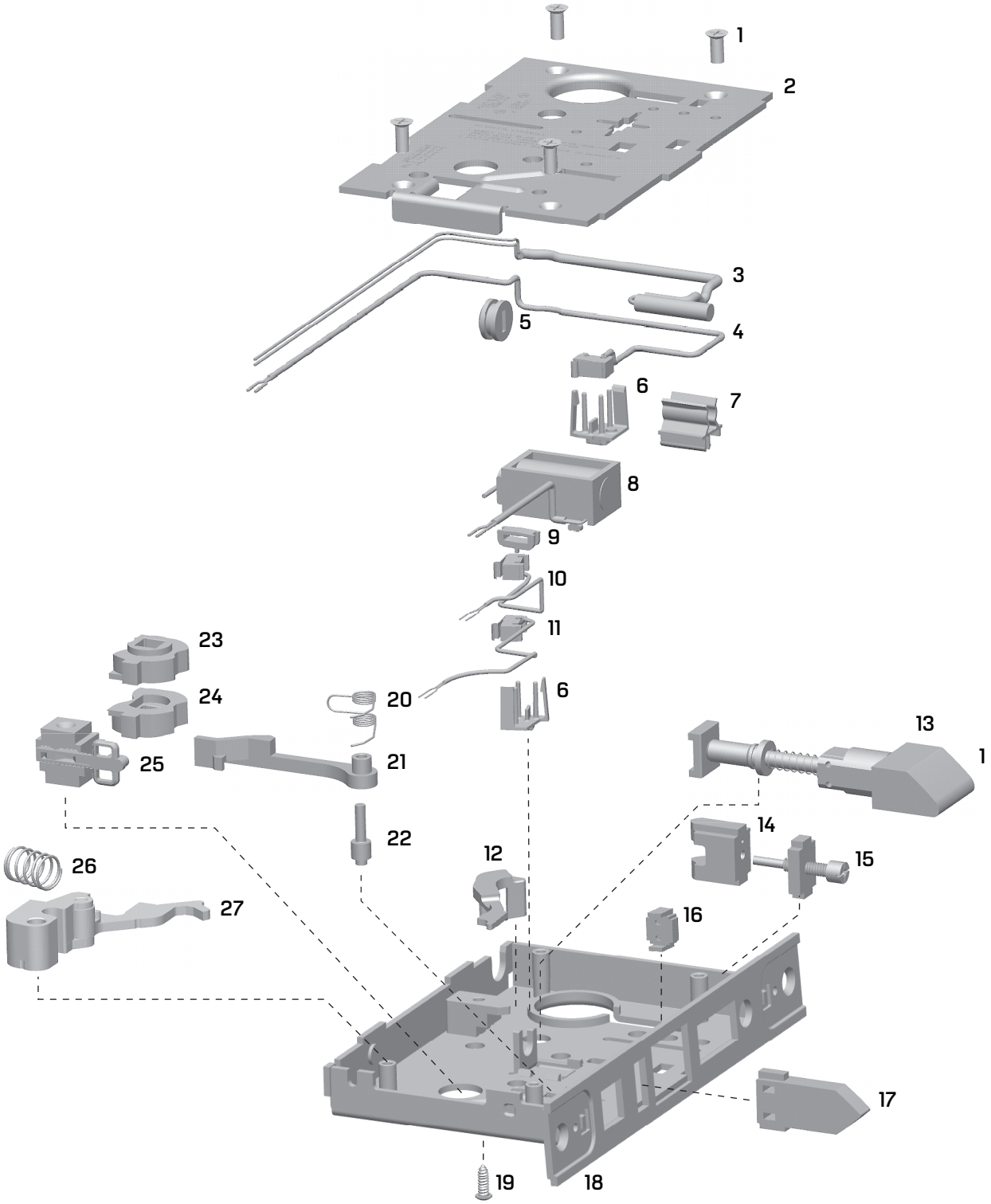


Figure 4.21 WEL function case exploded diagram

WEL function case parts list

Refer to Figure 4.21 and the table below to find the part you need.

Item	Part No.[a]	Qty.	Description
1	A34087	4	Case cover mounting screw
2	D44010	1	Cover
3	A60452	1	Door status switch
4	B44615	1	Latchbolt sensor switch assembly
5	A34236	1	Wire strain relief
6	B44602	2	RQE and latch status switch holder
7	A44601	1	Door position clip
8	B44613	1	12V solenoid
not shown	B44610	1	24V solenoid
9	A44622	1	Strain relief
10	B44616	1	RQE switch assembly (monitors cover side)
11	B44624	1	RQE switch assembly (monitors case side)
12	C44110	1	Key release lever
13	B45020	1	Latchbolt sub-assembly
14	C44144	1	Cylinder retainer
15	B45090	1	Cylinder retainer assembly
16	B44166	1	Fusible link molded assembly
17	C44142	1	Auxiliary bolt
18	C45000	1	Case sub-assembly
19	A44234	1	Self tapping screw
20	B44194	1	Deadlocking lever spring
21	C44148	1	Deadlocking lever
22	A44184	1	Deadlocking lever pin
23	C44538	1	Electrified hub (LH)
24	C44539	1	Electrified hub (RH)
25	b	1	Electronic locking toggle assembly
26	A44193	1	Release lever spring
27	C45010	1	Release lever sub-assembly

a. For a complete case, determine what type of solenoid and optional sensors you need. Then use the table below to find the part number for the case. To order a "case only" lock, which includes a mortise case, faceplate, and strike, see page 4–63.

Sensors			Case part number	
Door	Latch	RQE	12 V solenoid	24 V solenoid
■			C45714	C45715
	■		C45683	C45688
		■	C45684	C45689
	■	■	C45686	C45691
■		■	C45682	C45687
■	■	■	C45685	C45690

b. To obtain the parts for the electronic locking toggle assembly, order:
- locking slide (B44611)
- locking bar (A44612)
- electronic locking toggle (B44627)
- toggle screws (see *Screw kits* on page 5–19).

WEU FUNCTION CASE—ELECTRICALLY UNLOCKED FAIL SECURE

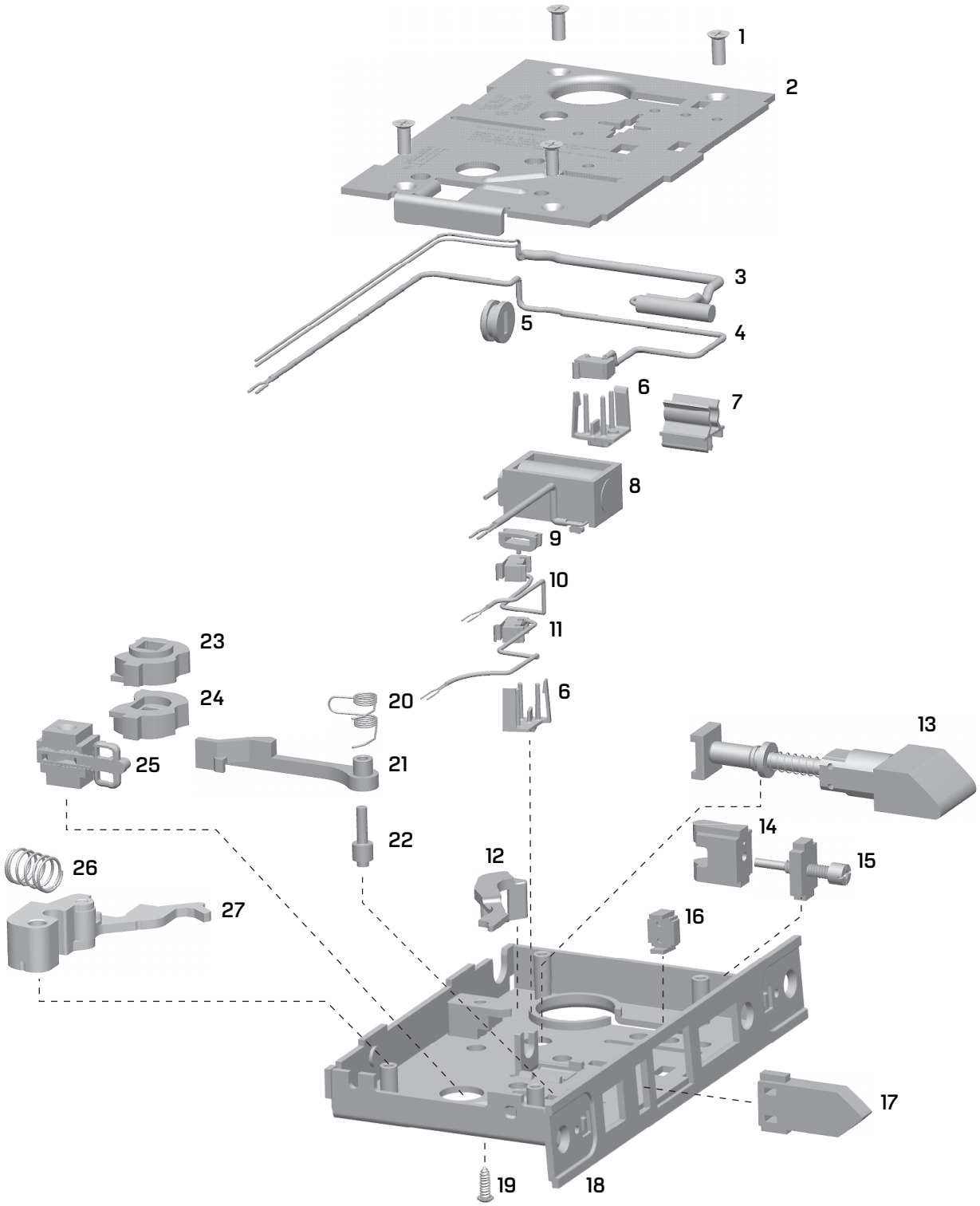


Figure 4.22 WEU function case exploded diagram

WEU function case parts list

Refer to Figure 4.22 and the table below to find the part you need.

Item	Part No.[a]	Qty.	Description
1	A34087	4	Case cover mounting screw
2	D44010	1	Cover
3	A60452	1	Door status switch
4	B44615	1	Latchbolt sensor switch assembly
5	A34236	1	Wire strain relief
6	B44602	2	RQE and latch status switch holder
7	A44601	1	Door position clip
8	B44613	1	12V solenoid
not shown	B44610	1	24V solenoid
9	A44622	1	Strain relief
10	B44616	1	RQE switch assembly (monitors cover side)
11	B44624	1	RQE switch assembly (monitors case side)
12	C44110	1	Key release lever
13	B45020	1	Latchbolt sub-assembly
14	C44144	1	Cylinder retainer
15	B45090	1	Cylinder retainer assembly
16	B44166	1	Fusible link molded assembly
17	C44142	1	Auxiliary bolt
18	C45000	1	Case sub-assembly
19	A44234	1	Self tapping screw
20	B44194	1	Deadlocking lever spring
21	C44148	1	Deadlocking lever
22	A44184	1	Deadlocking lever pin
23	C44538	1	Electrified hub (LH)
24	C44539	1	Electrified hub (RH)
25	[b]	1	Electronic locking toggle assembly
26	A44193	1	Release lever spring
27	C45010	1	Release lever sub-assembly

a. For a complete case, determine what type of solenoid and optional sensors you need. Then use the table below to find the part number for the case. To order a "case only" lock, which includes a mortise case, faceplate, and strike, see page 4–63.

Sensors			Case part number	
Door	Latch	RQE	12 V solenoid	24 V solenoid
■			C45712	C45713
	■		C45672	C45677
		■	C45673	C45678
	■	■	C45675	C45680
■		■	C45671	C45676
■	■	■	C45674	C45679

b. To obtain the parts for the electronic locking toggle assembly, order:
- locking slide (B44611)
- locking bar (A44612)
- electronic locking toggle (B44627)
- toggle screws (see *Screw kits* on page 5–19).

NXEL FUNCTION CASE—ELECTRICALLY LOCKED FAIL SAFE LOCK

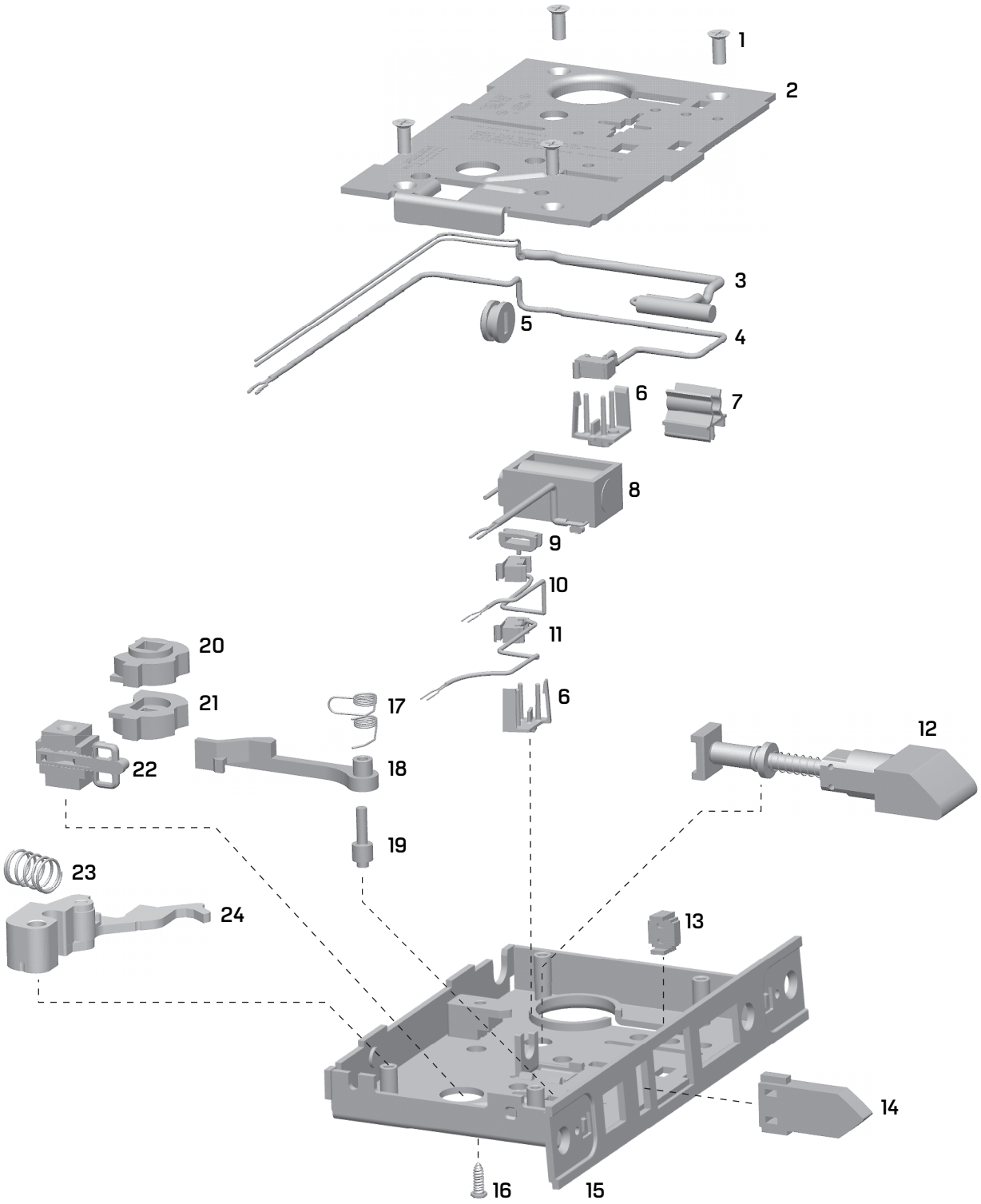


Figure 4.23 NXEL function case exploded diagram

NXEL function case parts list

Refer to Figure 4.23 and the table below to find the part you need.

Item	Part No.[a]	Qty.	Description
1	A34087	4	Case cover mounting screw
2	D44010	1	Cover
3	A60452	1	Door status switch
4	B44615	1	Latchbolt sensor switch assembly
5	A34236	1	Wire strain relief
6	B44602	2	RQE and latch status switch holder
7	A4601	1	Door position clip
8	B44613	1	12 V solenoid
not shown	B44610	1	24 V solenoid
9	A44622	1	Strain relief
10	B44616	1	RQE switch assembly (monitors cover side)
11	B44624	1	RQE switch assembly (monitors case side)
12	B45020	1	Latchbolt sub-assembly
13	B44166	1	Fusible link molded assembly
14	C44142	1	Auxiliary bolt
15	C45000	1	Case sub-assembly
16	A44234	1	Self tapping screw
17	B44194	1	Deadlocking lever spring
18	C44148	1	Deadlocking lever
19	A44184	1	Deadlocking lever pin
20	C44538	1	Electrified hub (LH)
21	C44539	1	Electrified hub (RH)
22	[b]	1	Electronic locking toggle assembly
23	A44193	1	Release lever spring
24	C45010	1	Release lever sub-assembly

a. For a complete case, determine what type of solenoid and optional sensors you need. Then use the table below to find the part number for the case. To order a "case only" lock, which includes a mortise case, faceplate, and strike, see page 4–63.

Sensors			Case part number	
Door	Latch	RQE	12 V solenoid	24 V solenoid
■			C45706	C45707
	■		C45541	C45546
		■	C45542	C45547
	■	■	C45544	C45549
■		■	C45540	C45545
■	■	■	C45543	C45548

b. To obtain the parts for the electronic locking toggle assembly, order:
- locking slide (B44611)
- locking bar (A44612)
- electronic locking toggle (B44627)
- toggle screws (see *Screw kits* on page 5–19).

NXEU FUNCTION CASE—ELECTRICALLY UNLOCKED FAIL SECURE LOCK

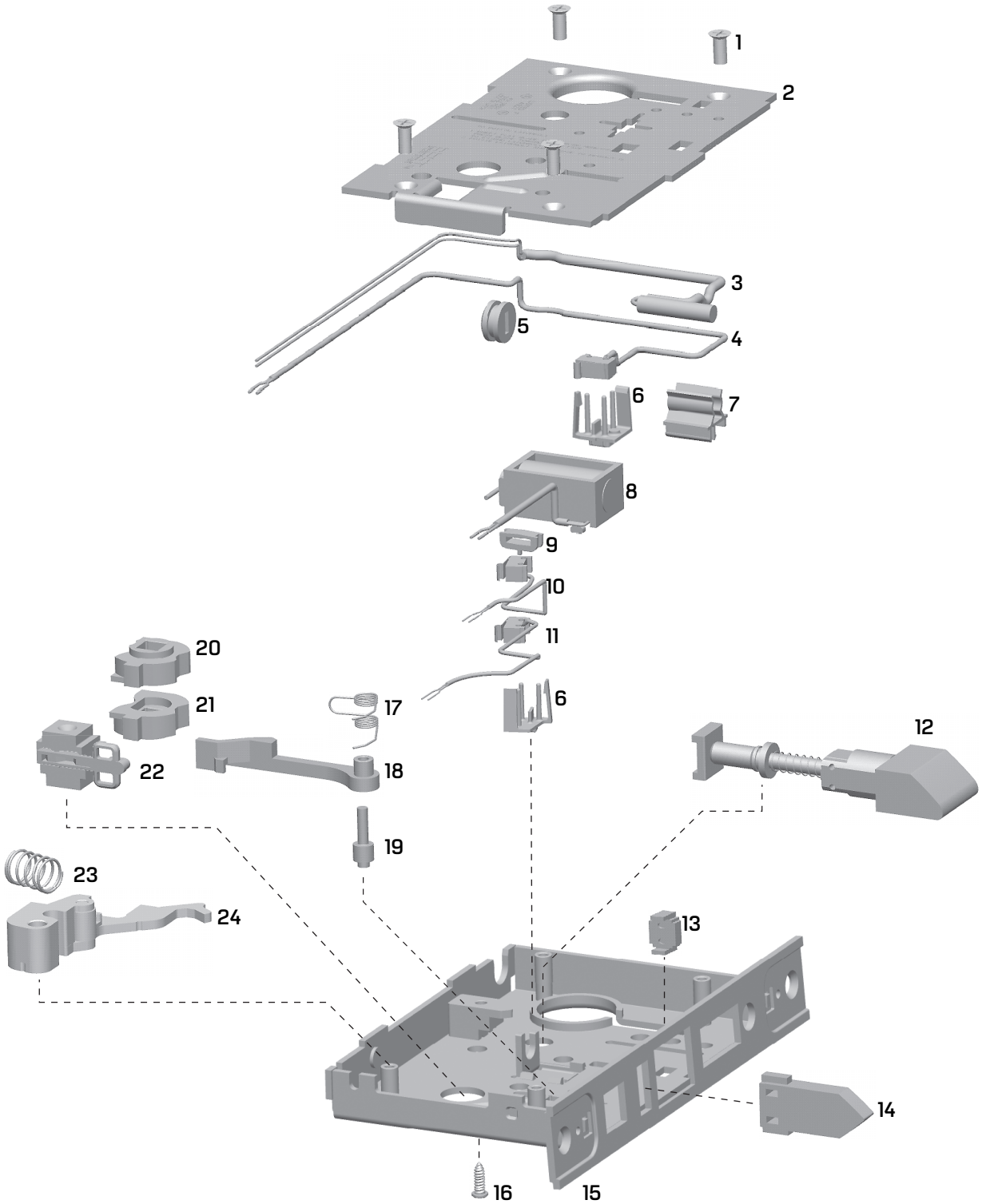


Figure 4.24 NXEU function case exploded diagram

NXEU function case parts list

Refer to Figure 4.24 and the table below to find the part you need.

Item	Part No.[a]	Qty.	Description
1	A34087	4	Case cover mounting screw
2	D44010	1	Cover
3	A60452	1	Door status switch
4	B44615	1	Latchbolt sensor switch assembly
5	A34236	1	Wire strain relief
6	B44602	2	RQE and latch status switch holder
7	A4601	1	Door position clip
8	B44613	1	12 V solenoid
not shown	B44610	1	24 V solenoid
9	A44622	1	Strain relief
10	B44616	1	RQE switch assembly (monitors cover side)
11	B44624	1	RQE switch assembly (monitors case side)
12	B45020	1	Latchbolt sub-assembly
13	B44166	1	Fusible link molded assembly
14	C44142	1	Auxiliary bolt
15	C45000	1	Case sub-assembly
16	A44234	1	Self tapping screw
17	B44194	1	Deadlocking lever spring
18	C44148	1	Deadlocking lever
19	A44184	1	Deadlocking lever pin
20	C44538	1	Electrified hub (LH)
21	C44539	1	Electrified hub (RH)
22	[b]	1	Electronic locking toggle assembly
23	A44193	1	Release lever spring
24	C45010	1	Release lever sub-assembly

a. For a complete case, determine what type of solenoid and optional sensors you need. Then use the table below to find the part number for the case. To order a "case only" lock, which includes a mortise case, faceplate, and strike, see page 4–63.

Sensors			Case part number	
Door	Latch	RQE	12 V solenoid	24 V solenoid
■			C45704	C45705
	■		C45530	C45535
		■	C45531	C45536
	■	■	C45533	C45538
■		■	C45529	C45534
■	■	■	C45532	C45537

b. To obtain the parts for the electronic locking toggle assembly, order:
- locking slide (B44611)
- locking bar (A44612)
- electronic locking toggle (B44627)
- toggle screws (see *Screw kits* on page 5–19).

TDEL FUNCTION CASE—ELECTRICALLY LOCKED FAIL SAFE LOCK

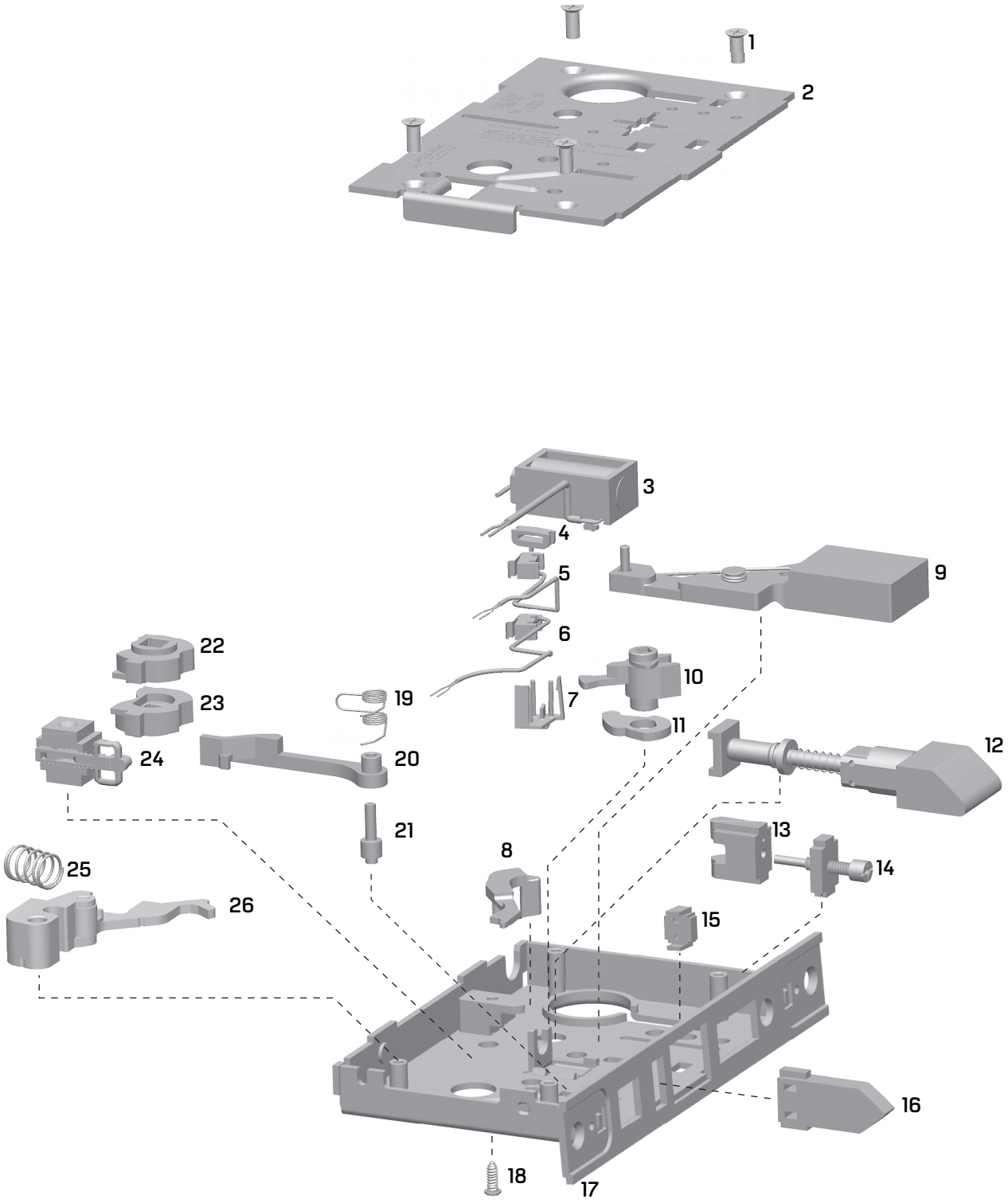


Figure 4.25 TDEL function case exploded diagram

TDEL function case parts list

Refer to Figure 4.25 and the table below to find the part you need.

Item	Part No.[a]	Qty.	Description
1	A34087	4	Case cover mounting screw
2	D44010	1	Cover
3	B44613	1	12V solenoid
not shown	B44610	1	24V solenoid
4	A44622	1	Strain relief
5	B44616	1	RQE switch assembly (monitors cover side)
6	B44624	1	RQE switch assembly (monitors case side)
7	B44602	1	RQE and latch status switch holder
8	C44110	1	Key release lever
9	B45060	1	Deadbolt sub-assembly
10	C44104	1	Turn knob hub (deadbolt)
11	B34032	1	Turn knob hub cam
12	B45020	1	Latchbolt sub-assembly
13	C44144	1	Cylinder retainer
14	B45090	1	Cylinder retainer assembly
15	B44166	1	Fusible link molded assembly
16	C44142	1	Auxiliary bolt
17	C45000	1	Case sub-assembly
18	A44234	1	Self tapping screw
19	B44194	1	Deadlocking lever spring
20	C44148	1	Deadlocking lever
21	A44184	1	Deadlocking lever pin
22	C44538	1	Electrified hub (LH)
23	C44539	1	Electrified hub (RH)
24	b		Electronic locking toggle assembly
25	A44193		Release lever spring
26	C45010	1	Release lever sub-assembly

a. For a complete case, determine what type of solenoid and optional sensors you need. Then use the table below to find the part number for the case. To order a "case only" lock, which includes a mortise case, faceplate, and strike, see page 4–63.

Sensors	Case part number	
RQE	12 V solenoid	24 V solenoid
■	C45591	C45592
	C45728	C45729

b. To obtain the parts for the electronic locking toggle assembly, order:
- locking slide (B44611)
- locking bar (A44612)
- electronic locking toggle (B44627)
- toggle screws (see *Screw kits* on page 5–19).

TDEU FUNCTION CASE—ELECTRICALLY UNLOCKED FAIL SECURE

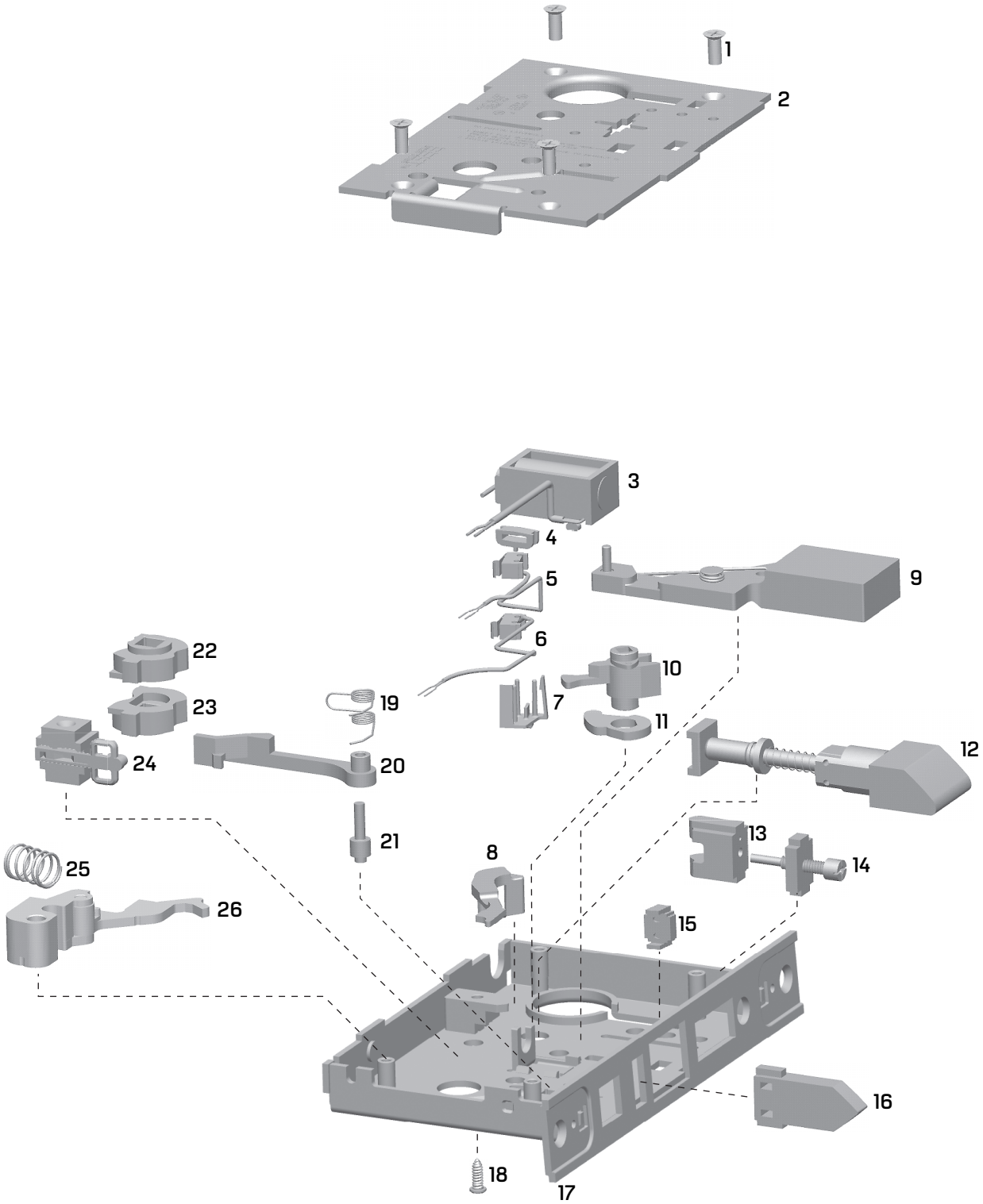


Figure 4.26 TDEU function case exploded diagram

TDEU function case parts list

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

Item	Part No.[a]	Qty.	Description
1	A34087	4	Case cover mounting screw
2	D44010	1	Cover
3	B44613	1	12V solenoid
not shown	B44610	1	24V solenoid
4	A44622	1	Strain relief
5	B44616	1	RQE switch assembly (monitors cover side)
6	B44624	1	RQE switch assembly (monitors case side)
7	B44602	1	RQE and latch status switch holder
8	C44110	1	Key release lever
9	B45060	1	Deadbolt sub-assembly
10	C44104	1	Turn knob hub (deadbolt)
11	B34032	1	Turn knob hub cam
12	B45020	1	Latchbolt sub-assembly
13	C44144	1	Cylinder retainer
14	B45090	1	Cylinder retainer assembly
15	B44166	1	Fusible link molded assembly
16	C44142	1	Auxiliary bolt
17	C45000	1	Case sub-assembly
18	A44234	1	Self tapping screw
19	B44194	1	Deadlocking lever spring
20	C44148	1	Deadlocking lever
21	A44184	1	Deadlocking lever pin
22	C44538	1	Electrified hub (LH)
23	C44539	1	Electrified hub (RH)
24	[b]		Electronic locking toggle assembly
25	A44193	1	Release lever spring
26	C45010	1	Release lever sub-assembly

a. For a complete case, determine what type of solenoid and optional sensors you need. Then use the table below to find the part number for the case. To order a "case only" lock, which includes a mortise case, faceplate, and strike, see page 4–63.

Sensor	Case part number	
RQE	12 V solenoid	24 V solenoid
■	C45586	C45586
	C45724	C45725

b. To obtain the parts for the electronic locking toggle assembly, order:
- locking slide (B44611)
- locking bar (A44612)
- electronic locking toggle (B44627)
- toggle screws (see *Screw kits* on page 5–19).

TWEL FUNCTION CASE—ELECTRICALLY LOCKED FAIL SAFE LOCK

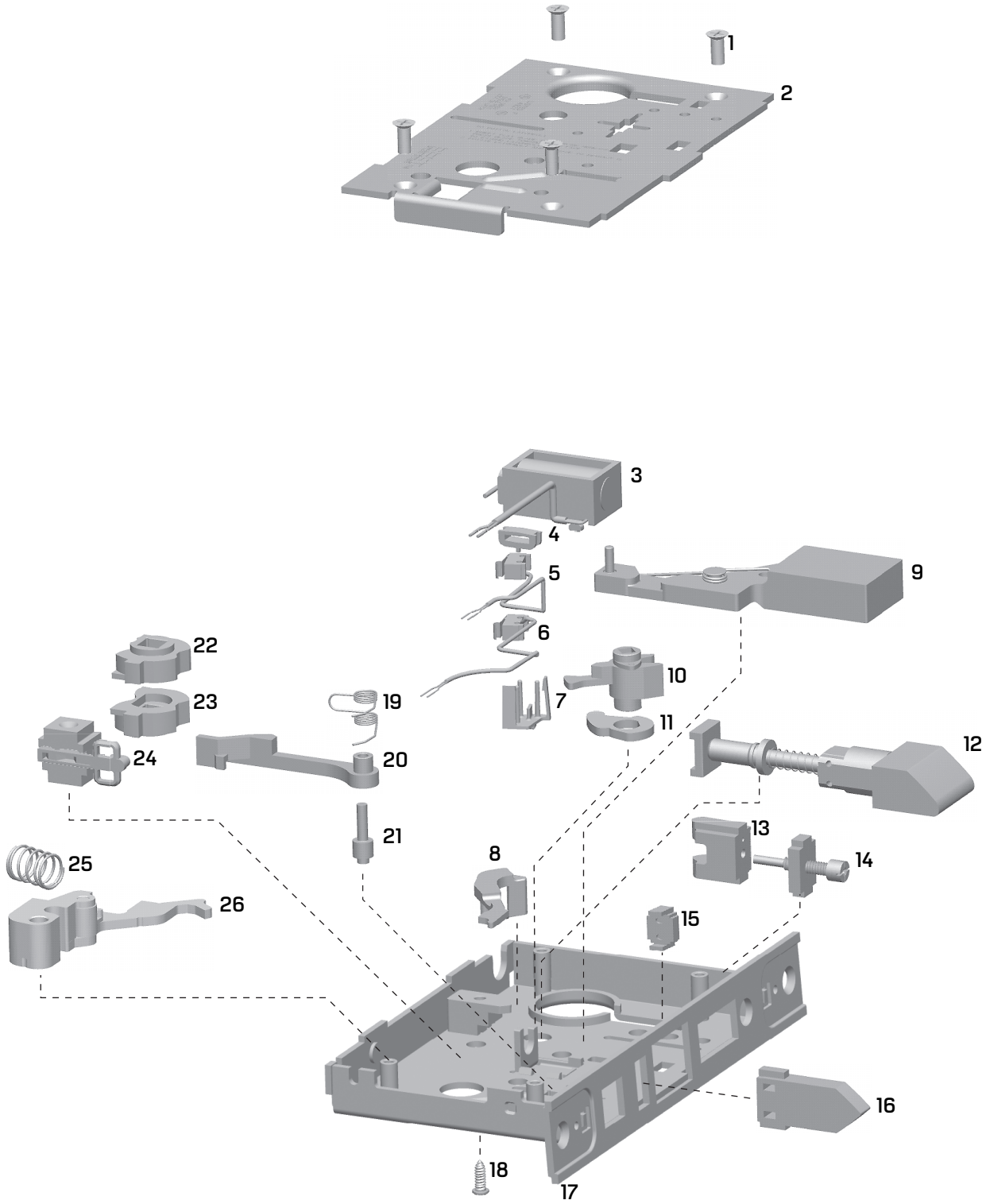


Figure 4.27 TWEL function case exploded diagram

TWEL function case parts list

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

Item	Part No.[a]	Qty.	Description
1	A34087	4	Case cover mounting screw
2	D44010	1	Cover
3	B44613	1	12V solenoid
not shown	B44610	1	24V solenoid
4	A44622	1	Strain relief
5	B44616	1	RQE switch assembly (monitors cover side)
6	B44624	1	RQE switch assembly (monitors case side)
7	B44602	1	RQE and latch status switch holder
8	C44110	1	Key release lever
9	B45060	1	Deadbolt sub-assembly
10	C44104	1	Turn knob hub (deadbolt)
11	A34032	1	Turn knob hub cam
12	B45020	1	Latchbolt sub-assembly
13	C44144	1	Cylinder retainer
14	B45090	1	Cylinder retainer assembly
15	B44166	1	Fusible link molded assembly
16	C44142	1	Auxiliary bolt
17	C45000	1	Case sub-assembly
18	A44234	1	Self tapping screw
19	B44194	1	Deadlocking lever spring
20	C44148	1	Deadlocking lever
21	A44184	1	Deadlocking lever pin
22	C44538	1	Electrified hub (LH)
23	C44539	1	Electrified hub (RH)
24	[b]	1	Electronic locking toggle assembly
25	A44193	1	Release lever spring
26	C45010	1	Release lever sub-assembly

a. For a complete case, determine what type of solenoid and optional sensors you need. Then use the table below to find the part number for the case. To order a "case only" lock, which includes a mortise case, faceplate, and strike, see page 4–63.

Sensors	Case part number	
RQE	12 V solenoid	24 V solenoid
■	C45699	C45700
	C45736	C45737

b. To obtain the parts for the electronic locking toggle assembly, order:
- locking slide (B44611)
- locking bar (A44612)
- electronic locking toggle (B44627)
- toggle screws (see *Screw kits* on page 5–19).

TWEU FUNCTION CASE—ELECTRICALLY UNLOCKED FAIL SECURE

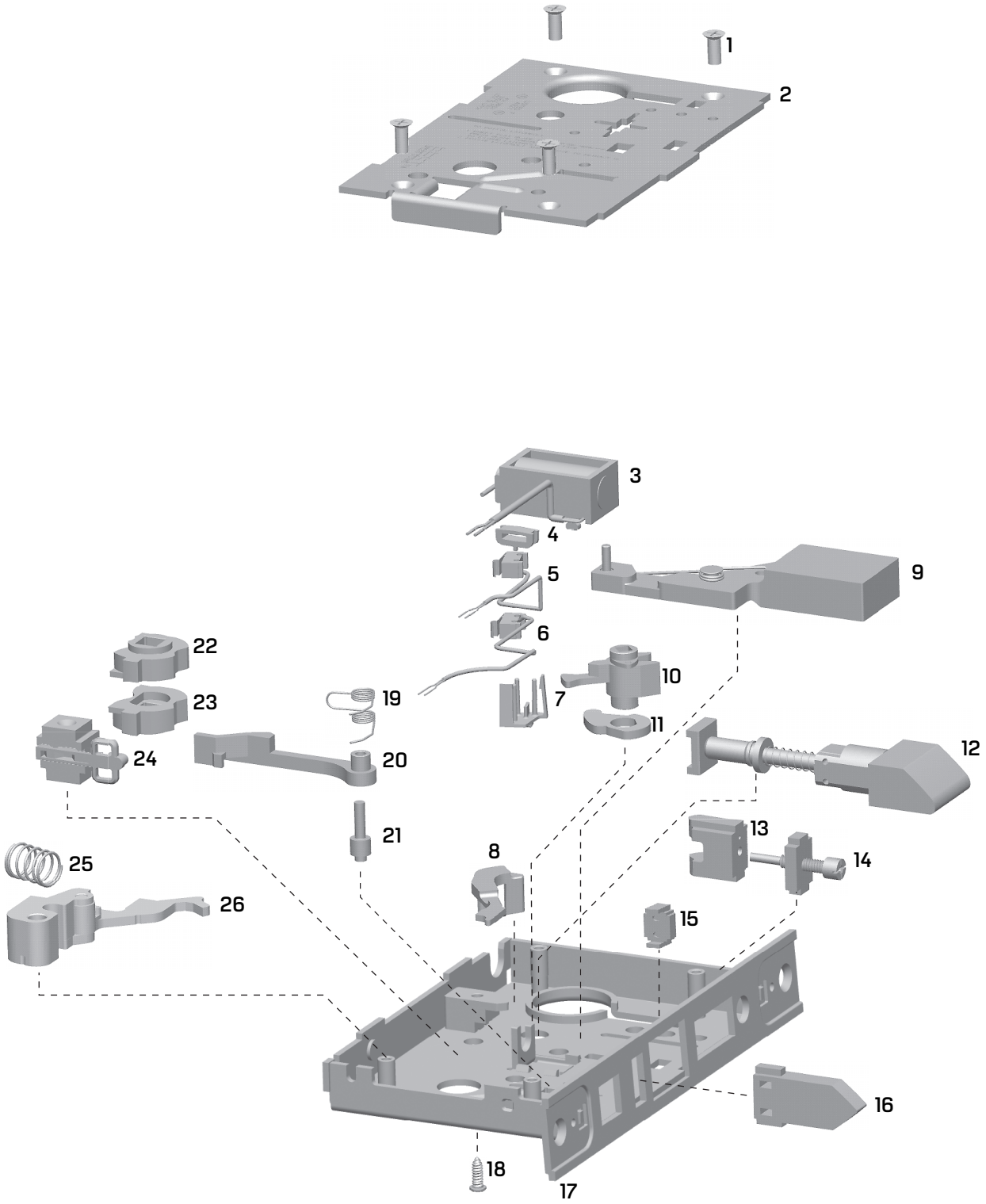


Figure 4.28 TWEU function case exploded diagram

TWEU function case parts list

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

Item	Part No.[a]	Qty.	Description
1	A34087	4	Case cover mounting screw
2	D44010	1	Cover
3	B44613	1	12V solenoid
not shown	B44610	1	24V solenoid
4	A44622	1	Strain relief
5	B44616	1	RQE switch assembly (monitors cover side)
6	B44624	1	RQE switch assembly (monitors case side)
7	B44602	1	RQE and latch status switch holder
8	C44110	1	Key release lever
9	B45060	1	Deadbolt sub-assembly
10	C44104	1	Turn knob hub (deadbolt)
11	A34032	1	Turn knob hub cam
12	B45020	1	Latchbolt sub-assembly
13	C44144	1	Cylinder retainer
14	B45090	1	Cylinder retainer assembly
15	B44166	1	Fusible link molded assembly
16	C44142	1	Auxiliary bolt
17	C45000	1	Case sub-assembly
18	A44234	1	Self tapping screw
19	B44194	1	Deadlocking lever spring
20	C44148	1	Deadlocking lever
21	A44184	1	Deadlocking lever pin
22	C44538	1	Electrified hub (LH)
23	C44539	1	Electrified hub (RH)
24	[b]	1	Electronic locking toggle assembly
25	A44193	1	Release lever spring

a. For a complete case, determine what type of solenoid and optional sensors you need. Then use the table below to find the part number for the case. To order a "case only" lock, which includes a mortise case, faceplate, and strike, see page 4–63.

Sensors	Case part number	
RQE	12 V solenoid	24 V solenoid
■	C45693	C45694
	C45732	C45733

b. To obtain the parts for the electronic locking toggle assembly, order:
- locking slide (B44611)
- locking bar (A44612)
- electronic locking toggle (B44627)
- toggle screws (see *Screw kits* on page 5–19).

LEL FUNCTION CASE—ELECTRICALLY LOCKED FAIL SAFE LOCK

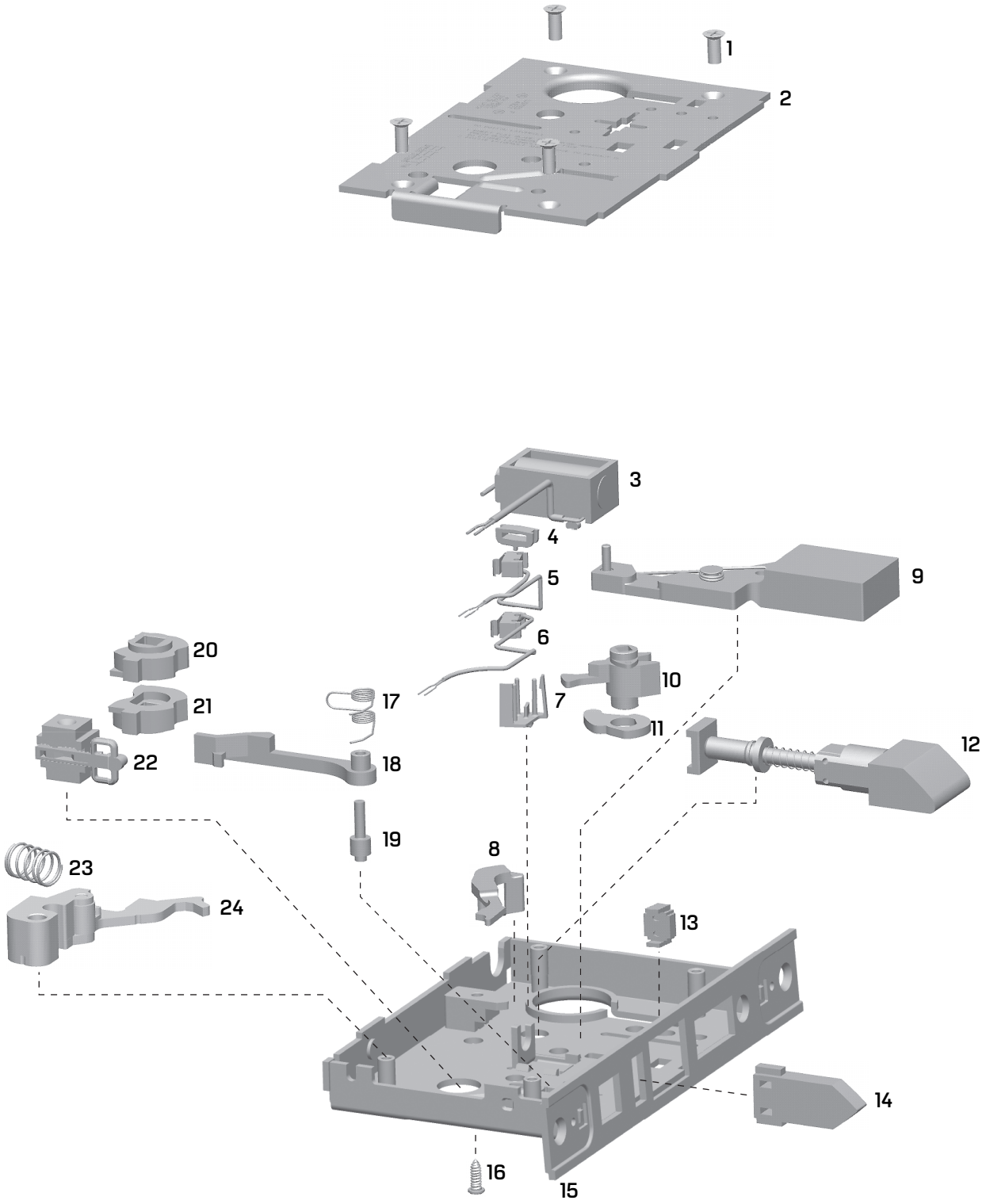


Figure 4.29 LEL function case exploded diagram

LEL function case parts list

Refer to Figure 4.29 and the table below to find the part you need.

Item	Part No.[a]	Qty.	Description
1	A34087	4	Case cover mounting screw
2	D44010	1	Cover
3	B44613	1	12V solenoid
not shown	B44610	1	24V solenoid
4	A44622	1	Strain relief
5	B44602	2	RQE and latch status switch holder
6	B44616	1	RQE switch assembly (monitors cover side)
7	B44624	1	RQE switch assembly (monitors case side)
8	C44110	1	Key release lever
9	B45060	1	Deadbolt sub-assembly
10	C44104	1	Turn knob hub (deadbolt)
11	A34032	1	Turn knob hub cam
12	B45020	1	Latchbolt sub-assembly
13	B44166	1	Fusible link molded assembly
14	C44142	1	Auxiliary bolt
15	C45000	1	Case sub-assembly
16	A44234	1	Self tapping screw
17	B44194	1	Deadlocking lever spring
18	C44148	1	Deadlocking lever
19	A44184	1	Deadlocking lever pin
20	C44539	1	Electrified hub (RH)
21	C44538	1	Electrified hub (LH)
22	[b]		Electronic locking toggle assembly
23	A44193	1	Release lever spring
24	C45010	1	Release lever sub-assembly

a. For a complete case, determine what type of solenoid and optional sensors you need. Then use the table below to find the part number for the case. To order a "case only" lock, which includes a mortise case, faceplate, and strike, see page 4–63.

Sensors	Case part number	
RQE	12 V solenoid	24 V solenoid
■	C45579	C45580
	C45720	C45721

b. To obtain the parts for the electronic locking toggle assembly, order:
- locking slide (B44611)
- locking bar (A44612)
- electronic locking toggle (B44627)
- toggle screws (see *Screw kits* on page 5–19).

LEU FUNCTION CASE—ELECTRICALLY UNLOCKED FAIL SECURE

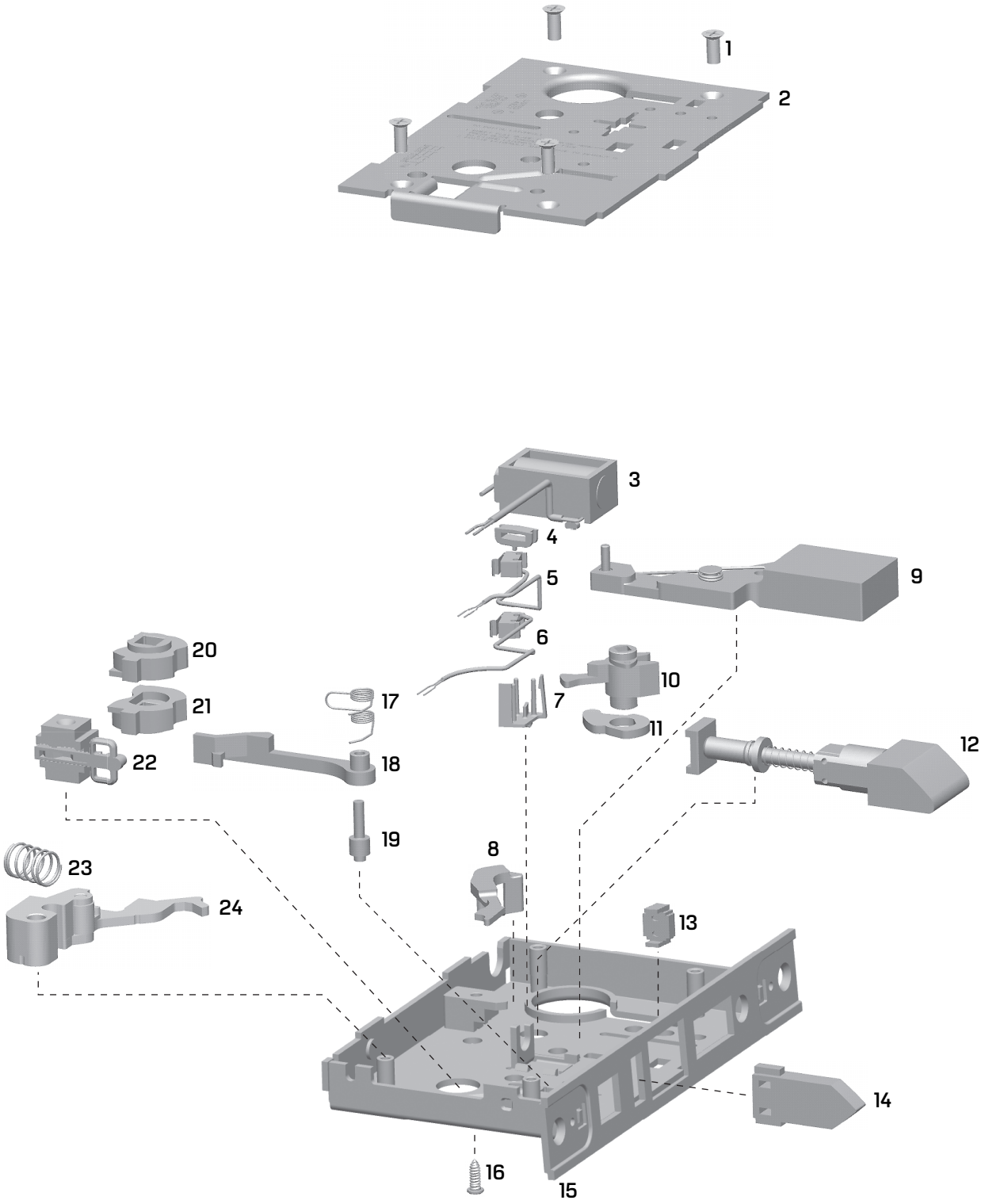


Figure 4.30 LEU function case exploded diagram

LEU function case parts list

Refer to Figure 4.30 and the table below to find the part you need.

Item	Part No.[a]	Qty.	Description
1	A34087	4	Case cover mounting screw
2	D44010	1	Cover
3	B44613	1	12V solenoid
not shown	B44610	1	24V solenoid
4	A44622	1	Strain relief
5	B44602	2	RQE and latch status switch holder
6	B44616	1	RQE switch assembly (monitors cover side)
7	B44624	1	RQE switch assembly (monitors case side)
8	C44110	1	Key release lever
9	B45060	1	Deadbolt sub-assembly
10	C44104	1	Turn knob hub (deadbolt)
11	A34032	1	Turn knob hub cam
12	B45020	1	Latchbolt sub-assembly
13	B44166	1	Fusible link molded assembly
14	C44142	1	Auxiliary bolt
15	C45000	1	Case sub-assembly
16	A44234	1	Self tapping screw
17	B44194	1	Deadlocking lever spring
18	C44148	1	Deadlocking lever
19	A44184	1	Deadlocking lever pin
20	C44539	1	Electrified hub (RH)
21	C44538	1	Electrified hub (LH)
22	[b]		Electronic locking toggle assembly
23	A44193	1	Release lever spring
24	C45010	1	Release lever sub-assembly

a. For a complete case, determine what type of solenoid and optional sensors you need. Then use the table below to find the part number for the case. To order a "case only" lock, which includes a mortise case, faceplate, and strike, see page 4–63.

Sensors	Case part number	
RQE	12 V solenoid	24 V solenoid
■	C45573	C45574
	C45716	C45717

b. To obtain the parts for the electronic locking toggle assembly, order:
- locking slide (B44611)
- locking bar (A44612)
- electronic locking toggle (B44627)
- toggle screws (see *Screw kits* on page 5–19).

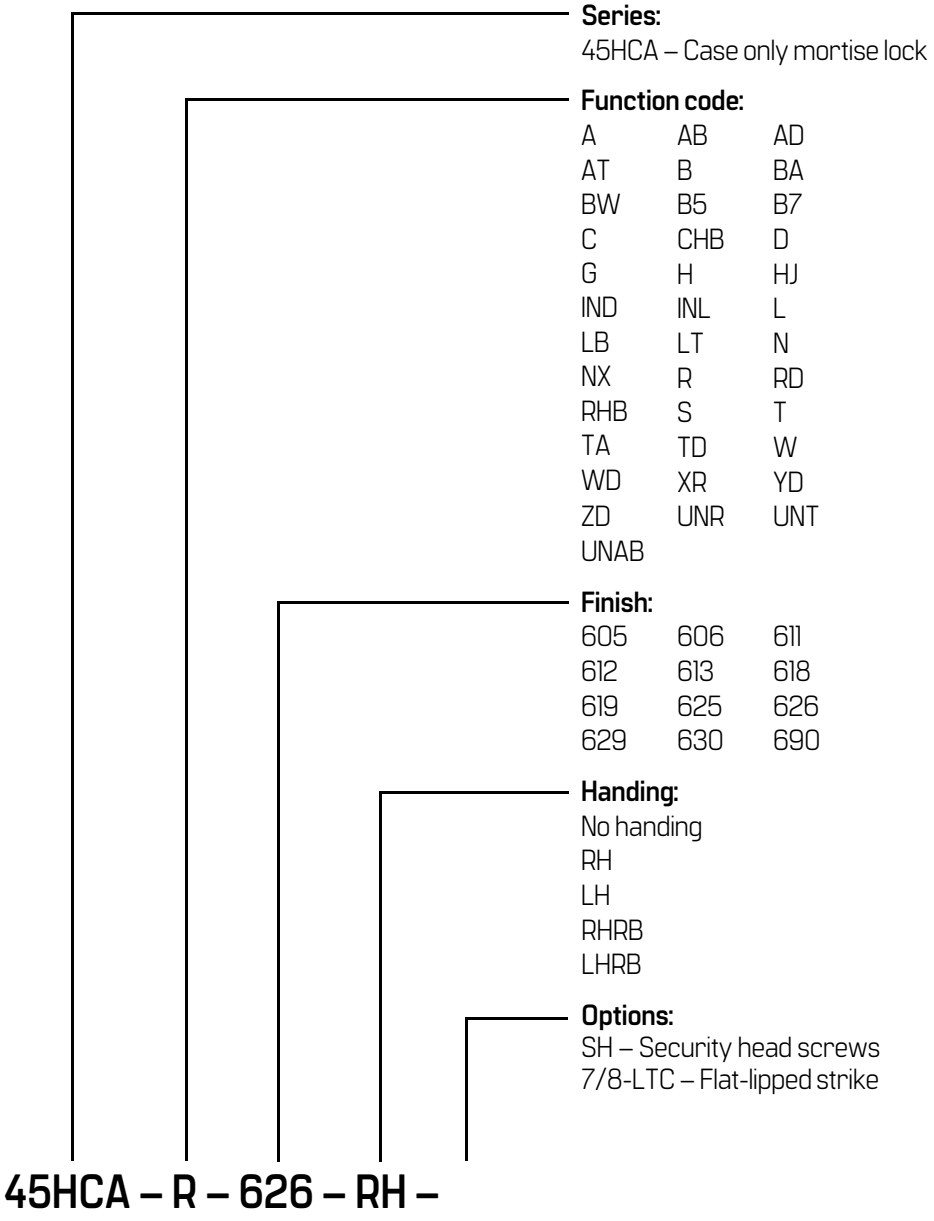
CASE ONLY LOCKS

For most functions, 40H Series Locks can be ordered as complete locks or can be assembled using a "case only" lock, an inside trim kit, and an outside trim kit. A case only lock includes the items not specifically associated with inside or outside trim (lock case, faceplate, strike, strike box, fasteners for case and strike, and installation instructions).

Note: Two faceplates are provided with UNR and UNAB functions.

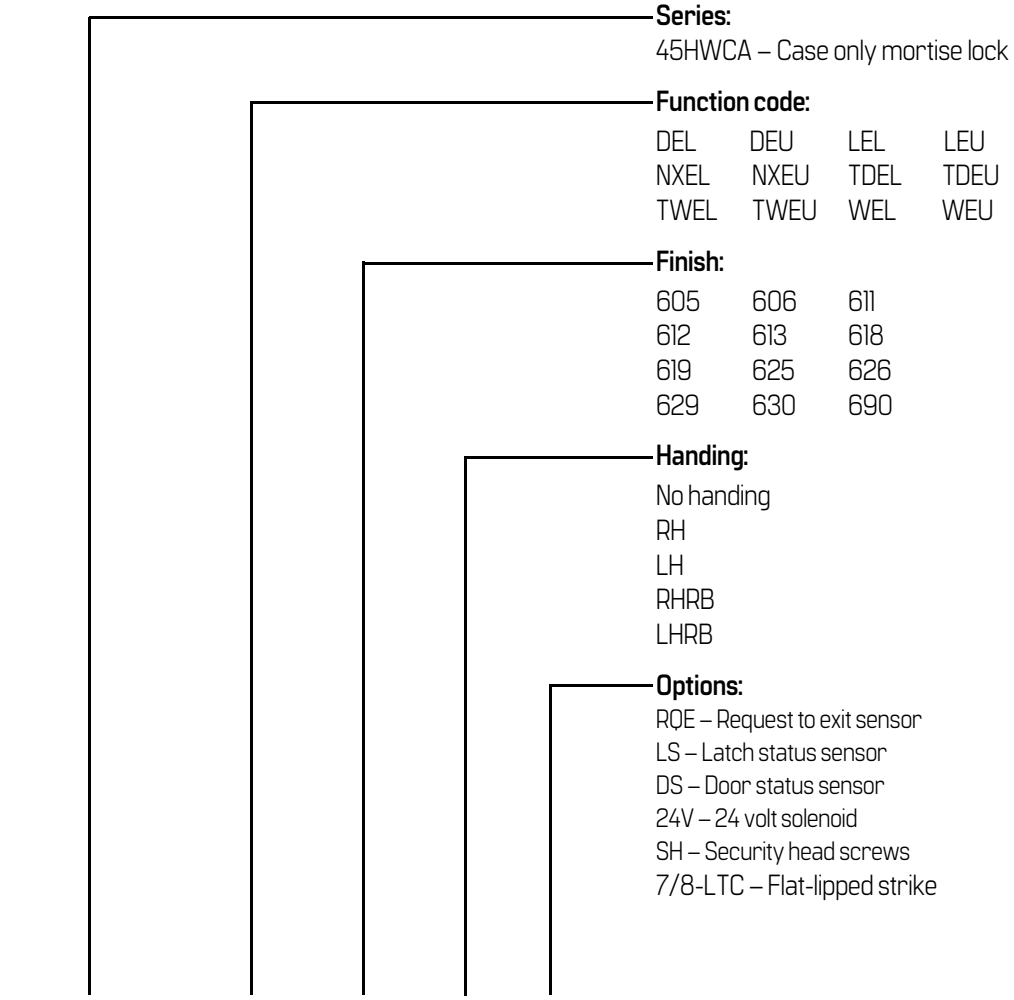
How to order standard mortise locks

To order standard case only locks, use the nomenclature shown in the example below. To order just a case assembly (without faceplate and strike) see the function's case part list in this chapter.



How to order electrified mortise locks

To order electrified case only locks, use the nomenclature shown in the example below.



Case only components

The components of case only locks are described in the table below. The figure below shows an example of the components included for each case only lock configuration.

Item	Description	Qty.
1	40H universal strike box	1
2	40H strike[a]	1
3	Strike screw (#12-12 × 3/4″ PHFH)[b]	2
not shown	Door status magnet[c]	1
not shown	Door status switch[c]	1
4	Faceplate screw (#8-32 × 1/4″ PHFHMS)[b]	2
5	Faceplate[d]	1
6	Case mounting screw (#12-12 × 3/4″ PHFH)[b]	2
7	Mortise case assembly[e]	1

a. For strike kit information see page 5–11.
b. For information to order screws, see 5–18.
c. Provided with deadbolt function electrified case only locks with optional door status monitoring.
d. For faceplate kit information, see page 5–15.
e. For part numbers for mortise cases, see the appropriate parts list in this chapter.

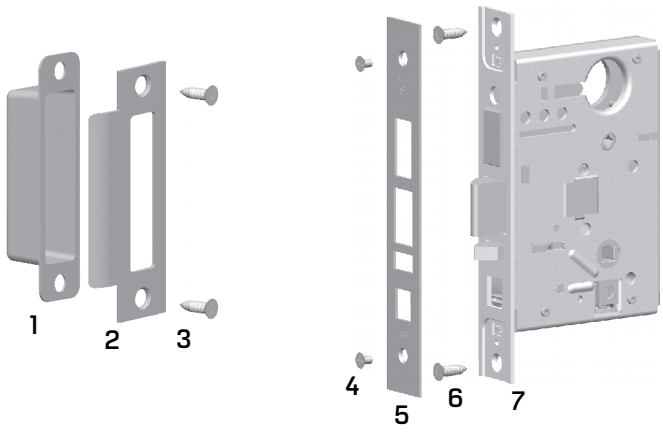


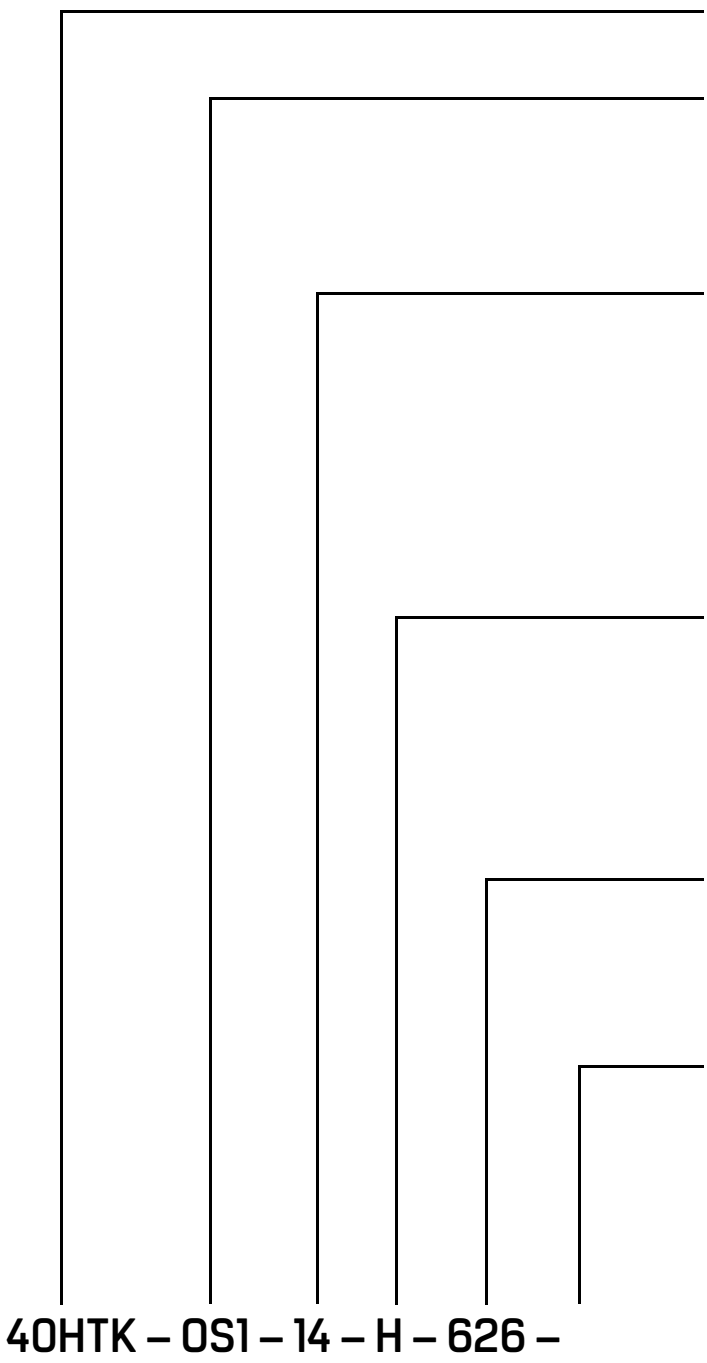
Figure 4.31 Case only lock – faceplate and case for AB function shown

5 Trim Parts

The following pages describe the trim parts available for 45H & 47H Locks and 45HW & 47HW Locks. Information for how to order trim kits is provided. For information about 48H & 49H trim parts, see *48H Trim parts* on page 7–5.

OUTSIDE TRIM KITS

How to order To order outside trim kits, use the nomenclature shown in the example below.



1. By default, OS2 and OS4 include a cylinder ring for single-keyed applications. For double-keyed applications, specify the D option in the nomenclature.
2. For door thickness information, see the table on the next page.

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″	3 3/4″
2 1/4″	4″
2 1/2″	4 1/4″
2 3/4″	4 1/2″
3″	4 3/4″
3 1/4″	5″
3 1/2″	

Kit components

The components of each outside trim kit are described in the table below. Figure 5.1 through Figure 5.4 show the components included in each outside trim kit. A sectional trim example (H style trim) and an escutcheon trim example (J style trim) are shown for each kit.

		Qty. per kit			
Item	Description	OS1	OS2	OS3	OS4
1	Outside lever and spindle assembly[a]	1	1	1	
2	Rose / escutcheon ring	1	1	1	
3	Rose or outside escutcheon[b]	1	1	1	
4	Outside trim mounting plate[c]	1	1	1	
5	J alignment plate [d]	1	1	1	
6	Trim mounting plate screw (#8-32 UNC-2A)[e] J	2	2	2	
7	alignment plate mounting screw [d, e]	1	1	1	
not shown	M/N escutcheon screw (#10-32 × 2 1/8″)	2	2	2	
8	Cylinder and cam assembly		1		1
9	Wavy washer		1		1
10	Cylinder ring[f]		1		1
not shown	Cylinder set screw (#10-24 × .330″)		1		1
11	Emergency key[g]			1	
12	Emergency rose mounting screw[e] (#6 × 1/2″ POH)			2	
13	Emergency access rose			1	

a. For information to order lever sets, see page 5–13.
b. For part numbers for roses and rose rings, see page 5–25.
For part numbers for outside escutcheons, see page 5–23.
c. To obtain an outside trim mounting plate with a lever spring, use B45081. To obtain an outside trim mounting plate without a lever spring (used with the #4 knob), use B45080.
d. The J alignment plate (B35466) is included in J trim kits only.
e. For information to order screw kits, see page 5–19.
f. The B45103 cylinder ring for single-keyed functions is shown. Double-keyed functions use B35105.
g. To obtain the sectional trim emergency key kit (rose, mounting screws, and key), use A35150. The outside escutcheon assembly for J, M, and N trim includes an integrated emergency access rose. To obtain the emergency key only, use A18719.

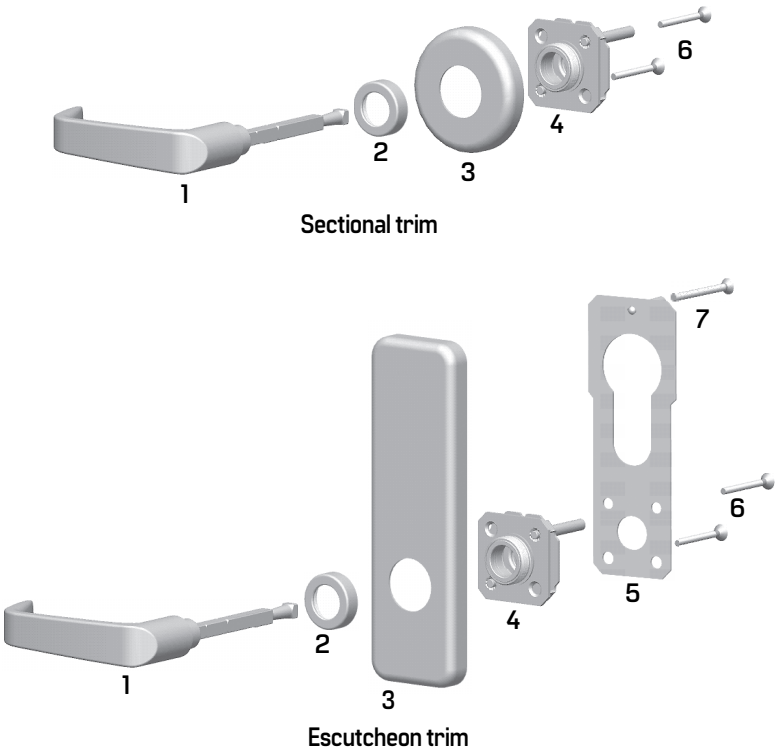


Figure 5.1 OS1 – Outside lever only

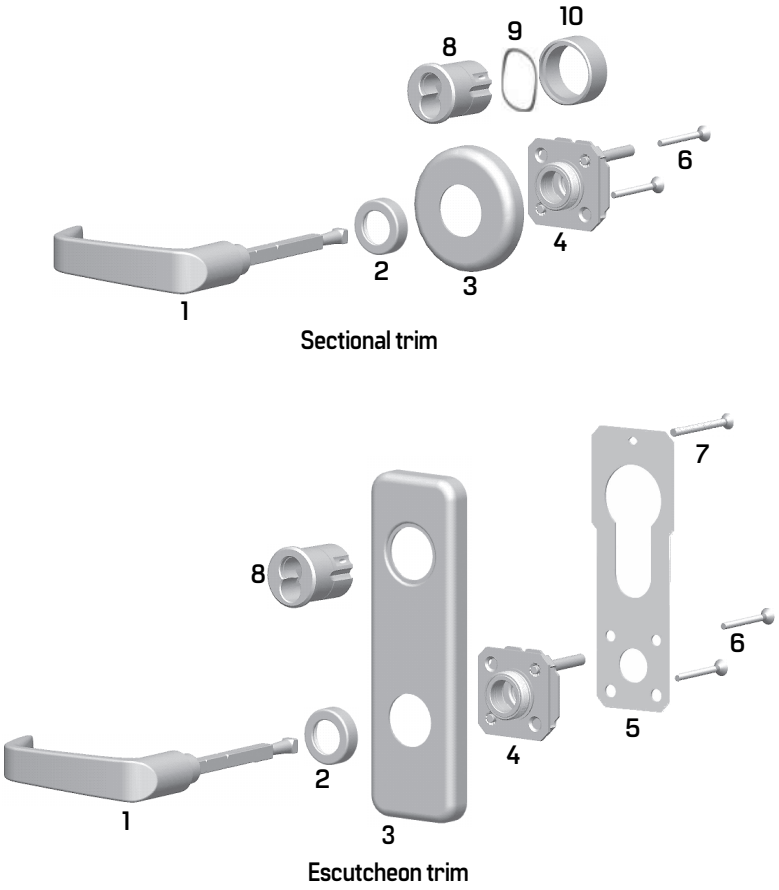


Figure 5.2 OS2 – Outside lever & cylinder

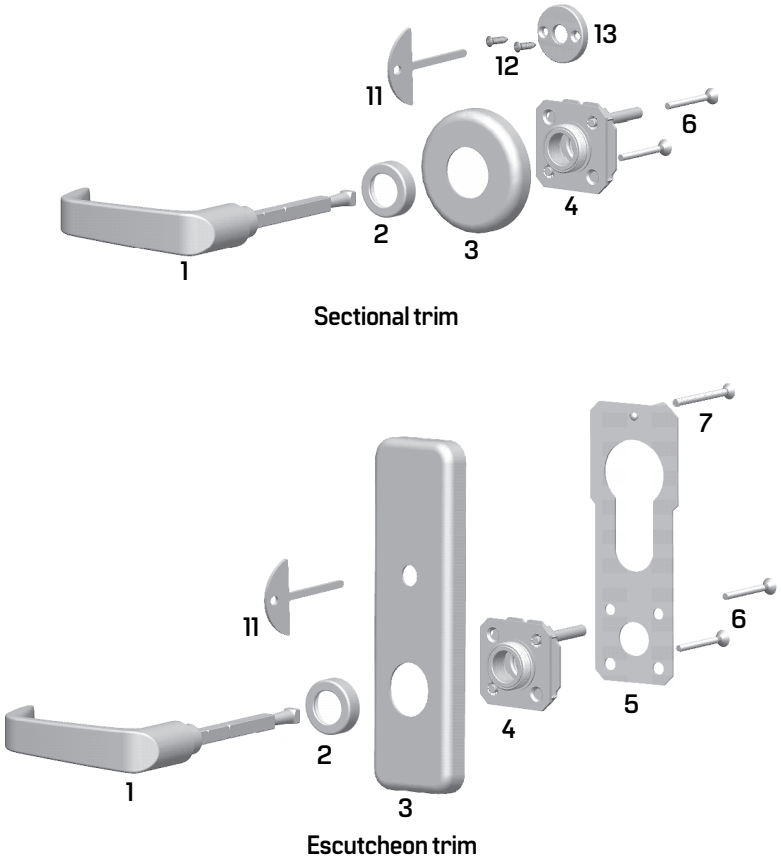


Figure 5.3 OS3 – Outside lever & access plate

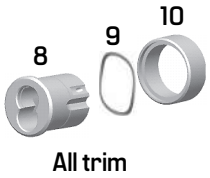
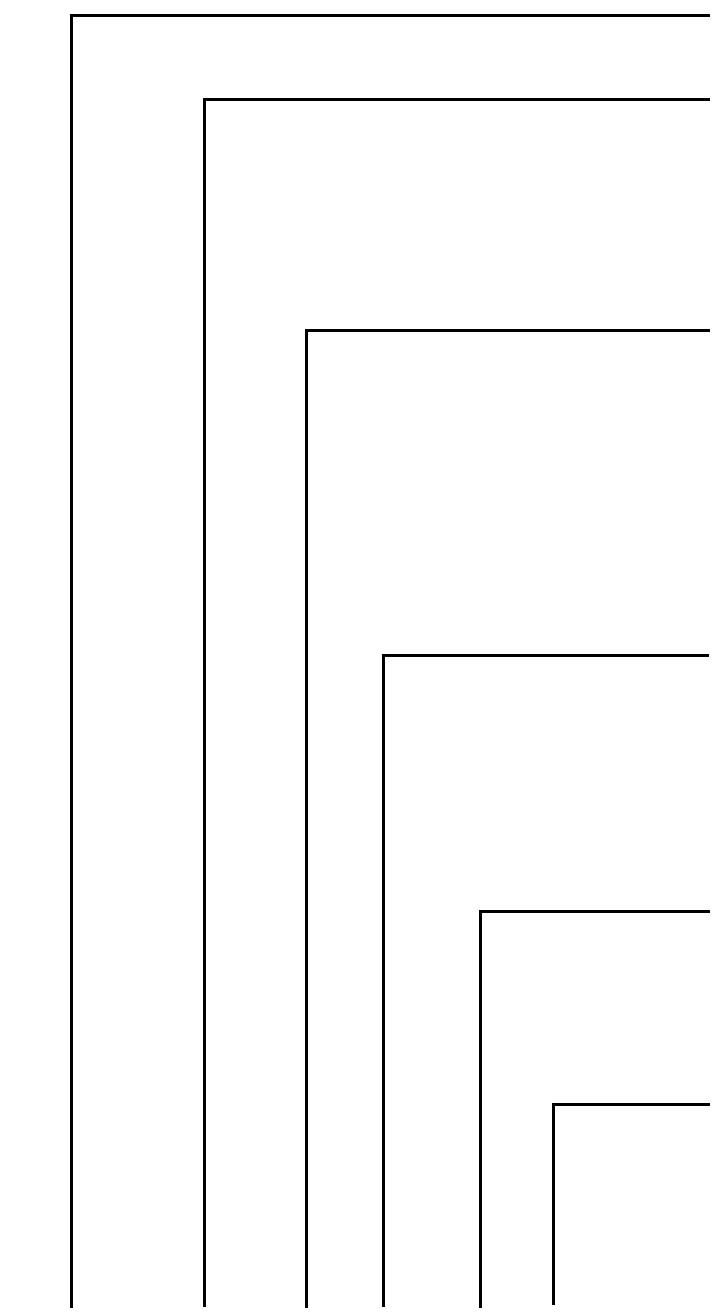


Figure 5.4 OS4 – Outside cylinder only

INSIDE TRIM KITS

How to order To order inside trim kits, use the nomenclature shown in the example below.



Series:
40HTK – Trim kit

Kit number:
IS1 – Inside lever only
IS2 – Inside lever & thumb turn
IS3[1] – Inside lever & cylinder
IS4† – Inside cylinder only
IS5 – Inside thumb turn only

Lever style:
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

Trim style:
H – 2 3/4″ diameter rose
J – Stamped escutcheon
M – Forged escutcheon
N – Forged (concealed cylinder) escutcheon
R – 2 3/4″ diameter rose
S – 3 9/16″ diameter rose

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
SH – Security head screws

1. IS3 and IS4 include the cylinder ring used for double-keyed applications.
2. For door thickness information, see the table on the next page.

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″	3 3/4″
2 1/4″	4″
2 1/2″	4 1/4″
2 3/4″	4 1/2″
3″	4 3/4″
3 1/4″	5″
3 1/2″	

Kit components

The components of each inside trim kit are described in the table below. Figure 5.5 through Figure 5.9 show the components included in each inside trim kit. A sectional trim example (H style trim) and an escutcheon trim example (J style trim) are shown for each kit.

		Qty. per kit				
Item	Description	IS1	IS2	IS3	IS4	IS5[a]
1	Inside trim mounting plate[b]	1	1	1		
2	Rose or inside escutcheon assembly[c]	1	1	1		
3	Rose / escutcheon ring	1	1	1		
4	Inside lever[d]	1	1	1		
not shown	Socket set screw for lever handle[e]	1	1	1		
5	Thumb turn and rose assembly[f]		1			1
6	Thumb turn mounting screw (#6 × 1/2″ POH)[d]		2			2
7	Cylinder ring[g]			1	1	
8	Wavy washer			1	1	
9	Cylinder and cam assembly			1	1	
not shown	Cylinder set screw (#10-24 × .330″)[e]			1	1	

a. IS5 is available for sectional trim only.
b. To obtain an inside trim mounting plate with a lever spring, use B45071.
To obtain an inside trim mounting plate without a lever spring (used with the #4 knob), use B45070.
c. For part numbers for roses and rose rings, see page 5–25.
For part numbers for inside escutcheons, see page 5–23.
d. For information to order lever sets, see page 5–13.
e. For information to order screw kits, see page 5–19.
f. The inside escutcheon assembly for J, M, and N trim includes an integrated thumb turn.
g. The cylinder ring provided is for double-keyed applications.

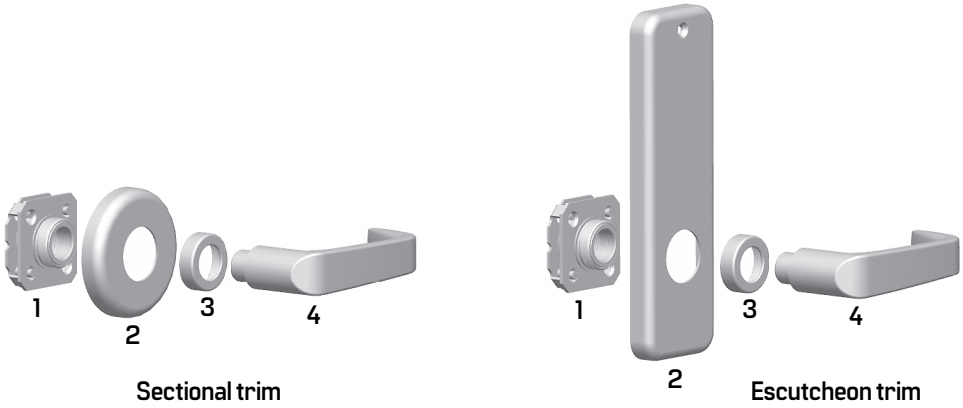


Figure 5.5 IS1 – Inside lever only

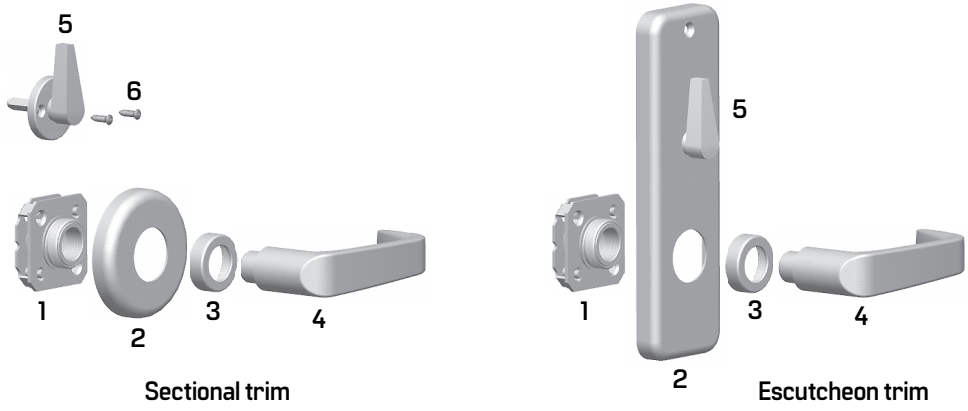


Figure 5.6 IS2 – Inside lever & thumb turn

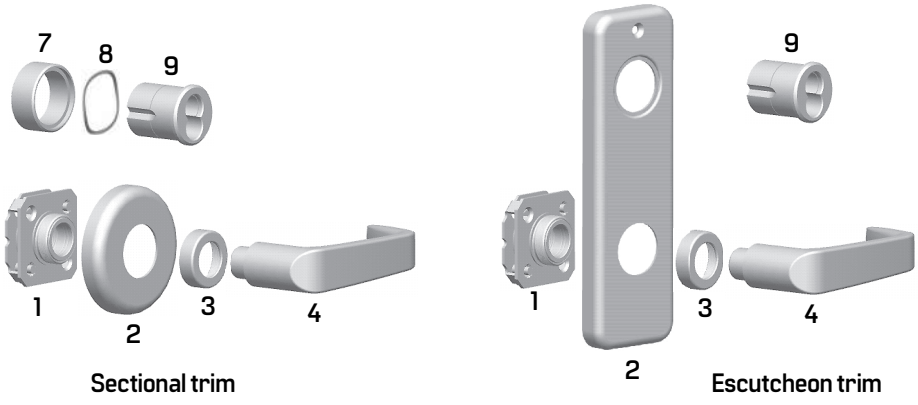
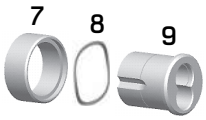
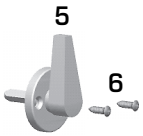


Figure 5.7 IS3 – Inside lever & cylinder



All trim

Figure 5.8 IS4 – Inside cylinder only



Sectional trim

Figure 5.9 IS5 – Inside thumb turn only

STRIKE PACKAGES

How to order To order strike packages, use the nomenclature shown in the example below.

Series:
40HST – Strike package

Kit number:
1 – Universal strike (non-handed)
4 – Strike box only
5 – Magnetic strike box only

Finish:

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

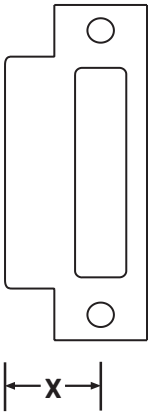
Options:
SH – Security head screws
Thick door – Specify thickness if other than 1 3/4″[1] 7/8-LTC – Flat-lipped strike

40HST – 1 – 626 –

1. For door thickness information, see the table below.

The table below lists available door thicknesses (assuming the mortise case is centered in the door) and indicates the lip to center dimension of the corresponding strike.

Door thickness	Lip to center dimension	Nomenclature example
2 1/4″	1.424″	40HST – 1 – 626 – –2 1/4
2 1/2″	1.549″	40HST – 1 – 626 – –2 1/2
2 3/4″	1.674″	40HST – 1 – 626 – –2 3/4
3″	1.799″	40HST – 1 – 626 – –3
3 1/4″	1.924″	40HST – 1 – 626 – –3 1/4
3 1/2″	2.049″	40HST – 1 – 626 – –3 1/2
3 3/4″	2.174″	40HST – 1 – 626 – –3 3/4
4″	2.299″	40HST – 1 – 626 – –4
4 1/4″	2.424″	40HST – 1 – 626 – –4 1/4
4 1/2″	2.549″	40HST – 1 – 626 – –4 1/2
4 3/4″	2.674″	40HST – 1 – 626 – –4 3/4
5″	2.799″	40HST – 1 – 626 – –5



Lip to center dimension—taken from the edge of the lip to the center of the screw holes

Figure 5.10 Lip to center dimension

Strike packages

The components of each strike package are described in the table below. Figure 5.11 and Figure 5.13 show the components included in each strike package.

		Qty. per kit		
Item	Description	1	4	5
1	Universal strike box	1	1	
2	40HS1 Universal strike	1		
3	Strike screw (#12-12 × 3/4" PHFH)[a]	1		
4	Magnetic strike box			1

a. For information to order screw kits, see page 5–19.

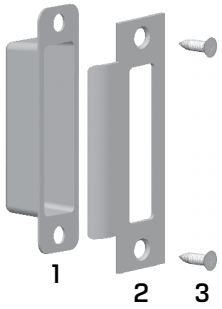


Figure 5.11 Strike kit 1– Universal strike package

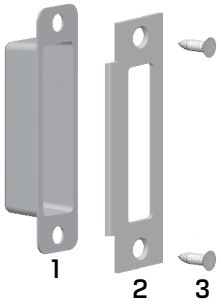


Figure 5.13 Strike kit 1– Universal strike package with flat-lipped option

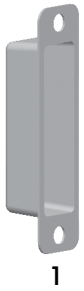


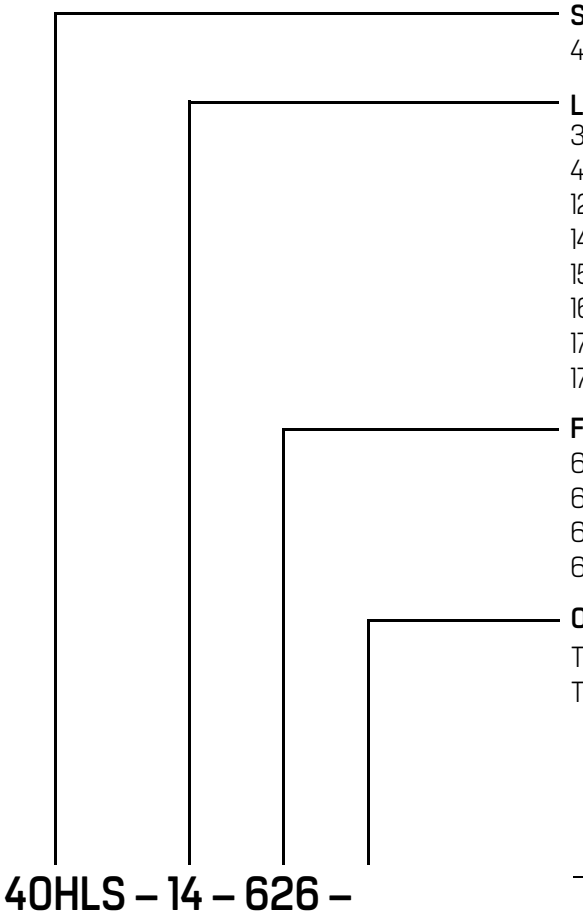
Figure 5.12 Strike kit 4– Strike box only



Figure 5.14 Strike kit 5– Magnetic strike box only

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]

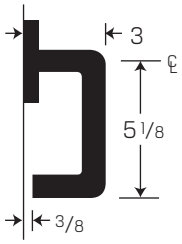
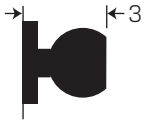
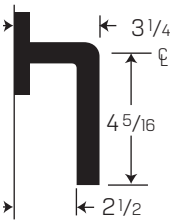
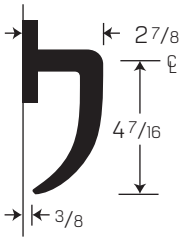
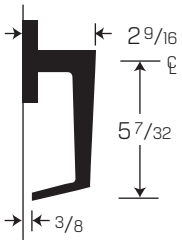
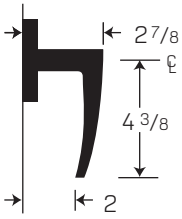
1. For decorative levers see the 40H catalog and the decorative le brochure.
2. For door thickness information, see the table below.
3. The method for achieving a tactile lever can vary depending on lever style and finish.

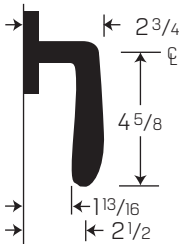
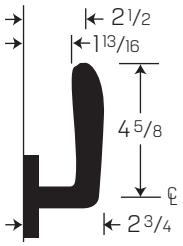
The table below lists available door thicknesses. If a door's thickness falls between two thicknesses listed below, round up. For doors where the mortise case is not centered in the door, contact your local dormakaba Representative.

Available door thicknesses	
2″	3 3/4″
2 1/4″	4″
2 1/2″	4 1/4″
2 3/4″	4 1/2″
3″	4 3/4″
3 1/4″	5″
3 1/2″	

Lever sets

The components of each lever set are described in the table on the next page. Figure 5.15 through Figure 5.16 show the components included in each lever set.

Style		Item	Description	Part number Standard	Part number Tactile
3			Solid tube / return lever set		
		1	Outside lever and spindle assembly	B45120[a]	B45121[a]
		2	Inside lever	B45110	B44306
		not shown	Socket set screw for lever handle[b]		
4			Knob set		
		1	Outside knob and spindle assembly	B45180[a]	B45181[a]
		2	Inside knob	B45170	B45171
		not shown	Socket set screw for lever handle[a]		
12			Solid tube / no return		
		not shown	Outside lever and spindle assembly	C45423[a]	B44310[a]
		not shown	Inside lever	C45408	B44311
		not shown	Socket set screw for lever handle[a]		
14			Curved return lever set		
		1	Outside lever and spindle assembly	B45140[a]	B45141[a]
		2	Inside lever	B45130	B45131
		not shown	Socket set screw for lever handle[b]		
15			Contour / angle return lever set		
		1	Outside lever and spindle assembly	B45160[a]	B45161[a]
		2	Inside lever	B45150	B45151
		not shown	Socket set screw for lever handle[b]		
16			Curve / no return lever set		
		1	Outside lever and spindle assembly	B45182[a]	B45183[a]
		2	Inside lever	B45172	B45173
		not shown	Socket set screw for lever handle[b]		

Style		Item	Description	Part number Standard	Tactile
			Gullwing / no return		
17LH		not shown	Outside lever and spindle assembly	C45420[a]	
		not shown	Inside lever	C45405	
		not shown	Socket set screw for lever handle[b]		
			Gullwing / no return		
17RH		not shown	Outside lever and spindle assembly	C45421[a]	
		not shown	Inside lever	C45406	
		not shown	Socket set screw for lever handle[b]		

a. For part numbers for door thicknesses other than 1 3/4″, contact your local dormakaba Representative.
b. For information to order screw kits, see page 5–19.



Figure 5.15 Solid tube / return (style 3)

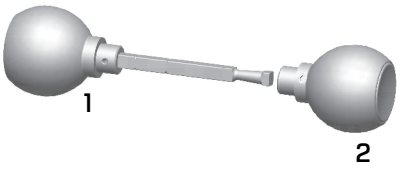


Figure 5.16 Knob (style 4)

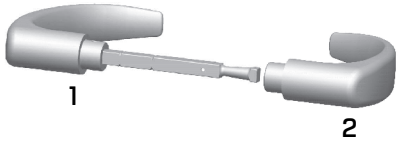


Figure 5.17 Curved return (style 14)

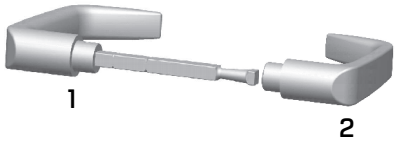


Figure 5.18 Contour/angle return (style 15)



Figure 5.19 Curve / no return (style 16)

FACEPLATE KITS

How to order To order faceplate trim kits, use the nomenclature shown in the example below.

40HFP – 3 – 626 –

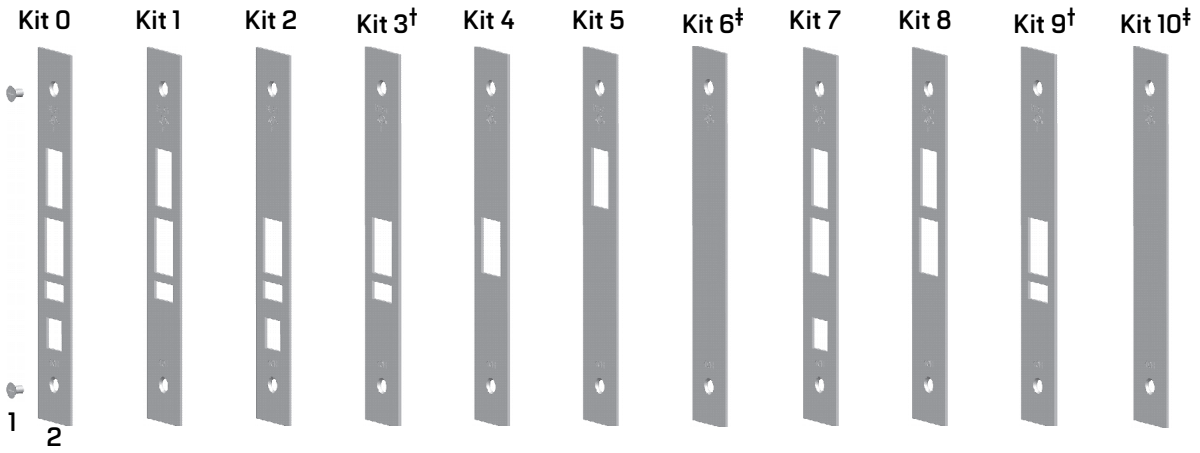
Series:
40HFP – Faceplate kit

Kit number:
0 – AB
1 – BW, H, HJ, LEL, LEU, TD, TDEL, TDEU, TWEL, TWEU
2 – A
3 – AT, C, D, DEL, DEU, INL, NX, NXEU, NXEL, R, W, WEL, WEU
4 – N, LT
5 – AD, WD, YD, RD
6 – Blank with logo
7 – BA, S, TA
8 – B, B5, B7, G, IND, L, LB, T
9 – CHB, RHB
10 – Blank without logo

Finish:

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

Options:
SH – Security head screws



† The faceplate in Kit 3 has the UL mark. The faceplate in Kit 9 does not have the UL mark.
‡ The faceplate in Kit 6 has the BEST logo. The faceplate in Kit 10 does not have the BEST logo.

Figure 5.20 Faceplate kits

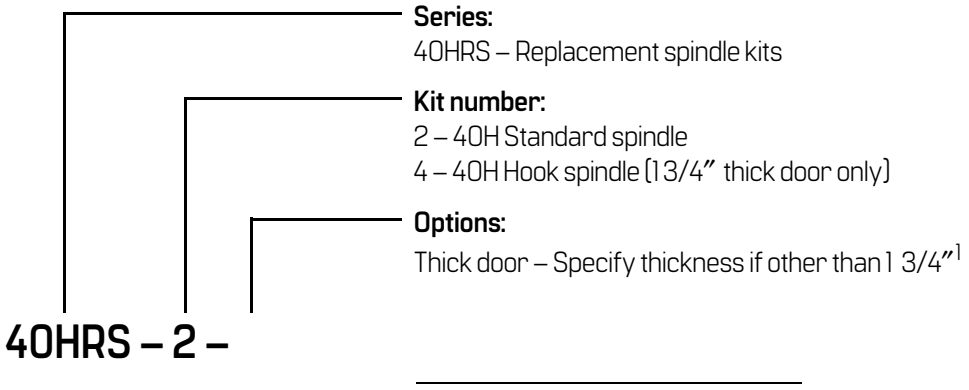
Faceplate kits All faceplate kits contain the components listed in the table below. Figure 5.20 shows the faceplate for each kit.

Item	Description	Qty.
1	Faceplate screw (#8-32 × 1/4″ PHFHMS)[a]	2
2	Faceplate	1

a. For information to order screw kits, see page 5–19.

REPLACEMENT SPINDLES

How to order To order replacement spindles, use the nomenclature shown in the example below.



1. For door thickness information, see the table below.

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″	3 3/4″
2 1/4″	4″
2 1/2″	4 1/4″
2 3/4″	4 1/2″
3″	4 3/4″
3 1/4″	5″
3 1/2″	

Replacement spindles

The components of each replacement spindle kit are described in the table below. Figure 5.20 shows each replacement spindle.

Item	Description	Part number	Qty, per kit 2 (Standard)	Qty, per kit 4 (Hook)
1	Inside spindle	B34016	1	
2	Outside spindle	B44181	1	
3	Spring pin (1/8 x 5/8")	A63101	1	
not shown	Socket set screw for lever handle[a]		1	
not shown	Allen wrench (1/8")[b]		1	
4	Lower hook spindle	A34205		1
5	Upper hook spindle	A34204		1
6	Pin (1/8 x 0.215")	A34203		1

a. For information to order screw kits, see page 5–19.
b. For information to order an allen wrench, see page 5–29

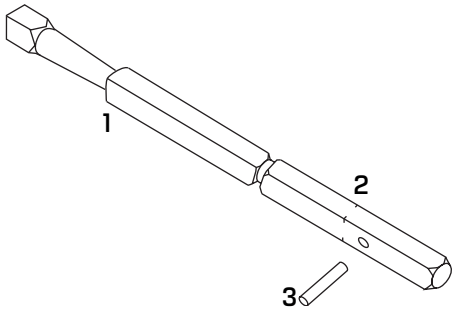


Figure 5.21 Spindle kit 2 – Standard replacement spindle

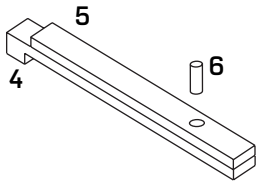
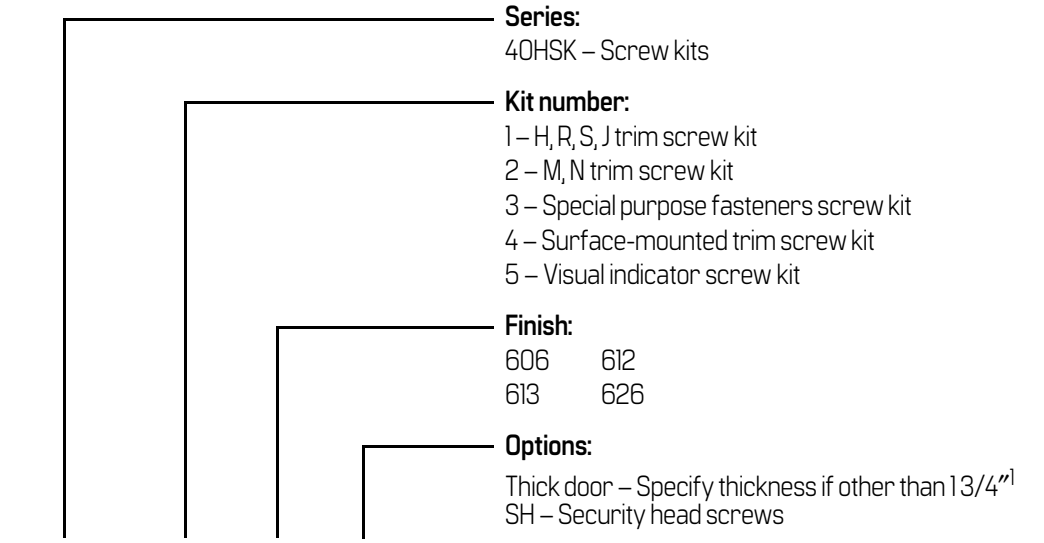


Figure 5.22 Spindle kit 4 – Hook replacement spindle

SCREW KITS

How to order To order screw kits, use the nomenclature shown in the example below.



1. For door thickness information, see the table below.

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″	3 3/4″
2 1/4″	4″
2 1/2″	4 1/4″
2 3/4″	4 1/2″
3″	4 3/4″
3 1/4″	5″
3 1/2″	

Screw kits

The components of screw kits are described in the table below. Figure 5.23 shows the components included in each screw kit.

Item	Description	Qty. per kit 1	2	3	4	5
1	Faceplate screw (#8-32 × 1/4″ PHFHMS)[a]	2	2			
2	Strike screw / case mounting screw (#12-12 × 3/4″ PHFH)[b]	4	4			
3	Trim plate mounting screw (#8-32 UNC-2A)[c]	2	2			
4	J alignment plate mounting screw (#8-32 × 1.75″ UNC-2A POHMS)[a, c] Thumb	1				
5	turn mounting / emergency access plate screw (#6 × 1/2″ POH)	2				
6	M/N escutcheon screw (#10-32 × 2 1/8″)[b, c]		2			
7	Shuttle guide pin			2		
8	Hub toggle screw			2		
9	Self tapping screw (TD, HJ, BW functions) / Visual indicator bracket mounting screw			1		2
10	Socket set screw for lever handle[d]			1		
11	Upper J escutcheon screw (#6 × 5/8″ POH surface mounting)				1	
12	Single dummy trim mounting screw (#8 × 1″ PFH surface mounting)				2	

a. Security head option accepts T15 bit.
b. Security head option accepts T25 bit.
c. When the thick door option is selected, a longer screw is provided.
d. Security head option accepts spanner head bit.

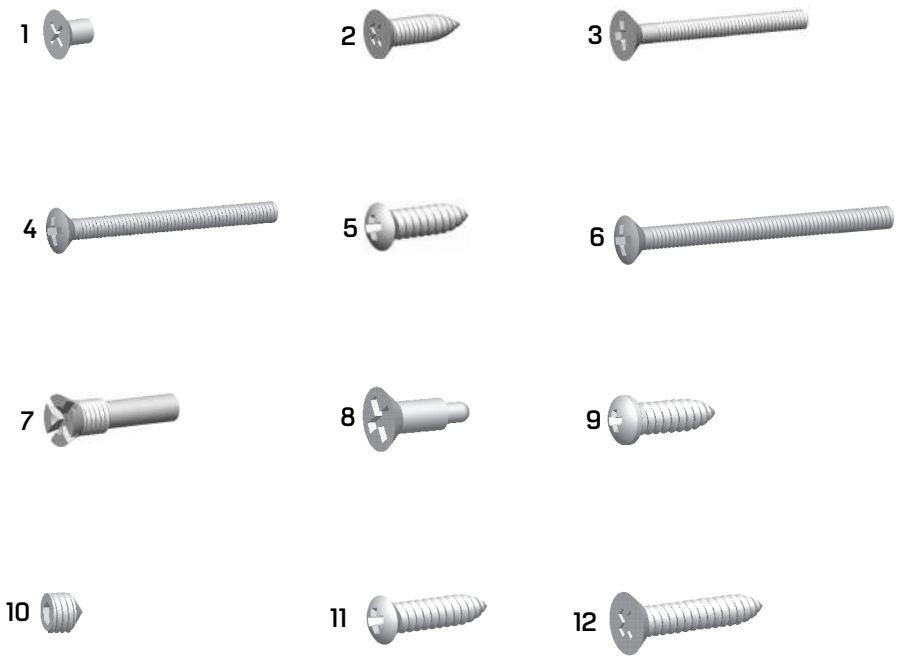
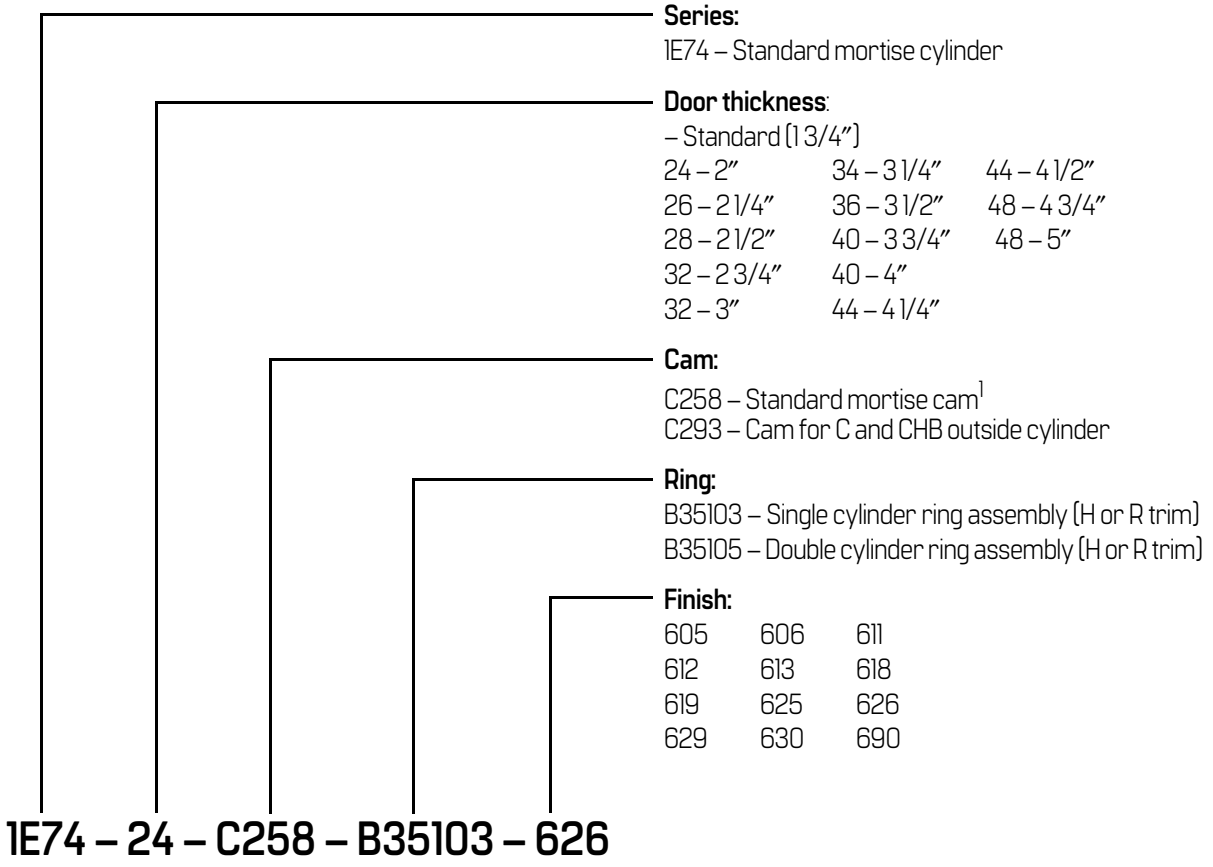


Figure 5.23 Screw kit components

CYLINDERS AND CAMS

How to order To order a cylinder and cam assembly and cylinder ring for a 40H Series Lock with sectional trim, J trim, or M trim, use the nomenclature shown in the example below. For information for ordering a cylinder and cam assembly and cylinder ring for a 40H Series Lock with N trim or a hotel function, see the tables on the next page.



1. The turn knob cylinder for the RD function (classroom deadbolt) has specialized components and must be ordered with the lock.

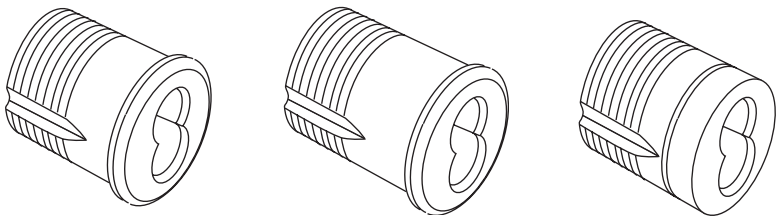
Cylinders by door thickness

The table below lists cylinders by 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.

Door thickness	Sectional, J, and M cylinder	Hotel cylinder	N cylinder
2″	B35170	B35200	1E7N4
2 1/4″	B35171	B35201	B35284
2 1/2″	B35172	B35202	B35285
2 3/4″	B35173	B35203	B35286
3″	B35174	B35204	B35287
3 1/4″	B35175	B35205	B35288
3 1/2″	B35176	B35206	B35289
3 3/4″	B35177	B35207	B35290
4″	B35178	B35208	B35291
4 1/4″	B35179	B35209	B35292
4 1/2″	B35180	B35210	B35293
4 3/4″	B35181	B35211	B35294
5″	B35182	B35212	B35295

Cylinder ring lengths

Ring part no.	Length (decimal)
B35100	7/32″ (.219)
B35101	11/32″ (.344)
B35102	13/32″ (.406)
B35103	7/16″ (.438)
B35104	9/16″ (.562)
B35105	19/32″ (.594)
B35106	21/32″ (.656)
B35107	23/32″ (.719)
B35108	13/16″ (.812)
B35109	5/16″ (.312)



Standard cylinder | Hotel cylinder | N trim cylinder

Figure 5.24 Cylinders

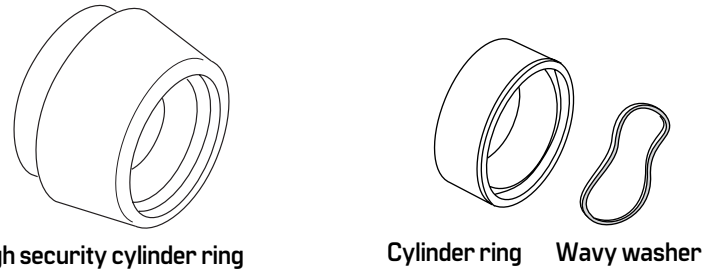


Figure 5.25 Cylinder rings

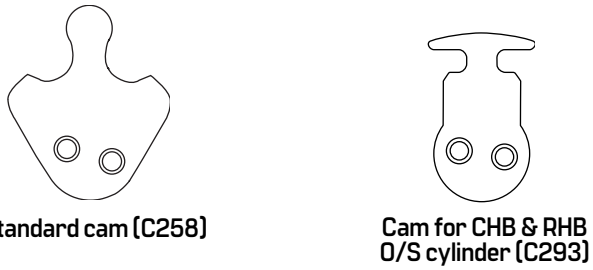


Figure 5.26 Cylinder cams

ESCUTCHEON ASSEMBLIES

J trim outside escutcheons

J trim outside escutcheon assemblies are described in the table and figures below.

Item	Description	Functions	Part number
1	Outside escutcheon	LEL, LEU N, NX, NXEL, NXEU	C44091
2	Outside escutcheon	A, AB, AT, B, BA, BW, B5, B7, C, CHB, D, DEL, DEU, G, HJ, IND, INL, R, RHB, S, T, TA, TD, TDEL, TDEU, TWEL, TWEU, W, WEL, WEU	C44092
3	Outside escutcheon	L, LB, LT	C44093
4	Outside escutcheon for keyed visual indicator	H, HJ [a]	D44094
5	Outside escutcheon for privacy visual indicator (with emergency key)	L, LB, LT	D44095

a. The keyed visual indicator may also be used with IND, INL, and TD function locks.

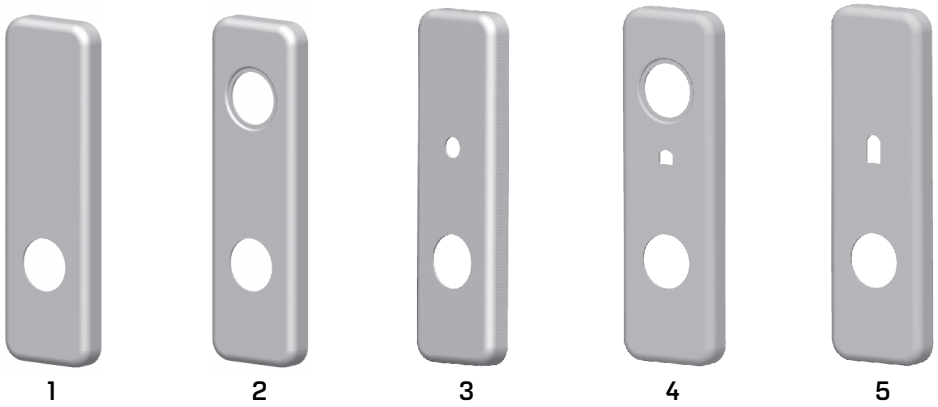


Figure 5.27 Outside J trim escutcheons

J trim inside escutcheons

J trim inside escutcheon assemblies are described in the table and figures below.

Item	Description	Functions	Part number
1	Inside escutcheon	A, B5, D, DEL, DEU, N, NX, NXEL, NXEU, R, RHB, TDEL, TDEU	D44081
2	Inside escutcheon and turn knob assembly	AB, AT, B, BA, BW, H, HJ, L, LB, LEL, LEU, LT, T, TA, TD	B45200[a]
3	Inside escutcheon	B7, C, CHB, G, IND, INL, S, TWEL, TWEU, W, WEL, WEU	D44082
4	Inside escutcheon for keyed visual indicator	INL, IND	D44084

a. For part numbers for door thicknesses other than 1 3/4″, contact your local dormakaba Representative.

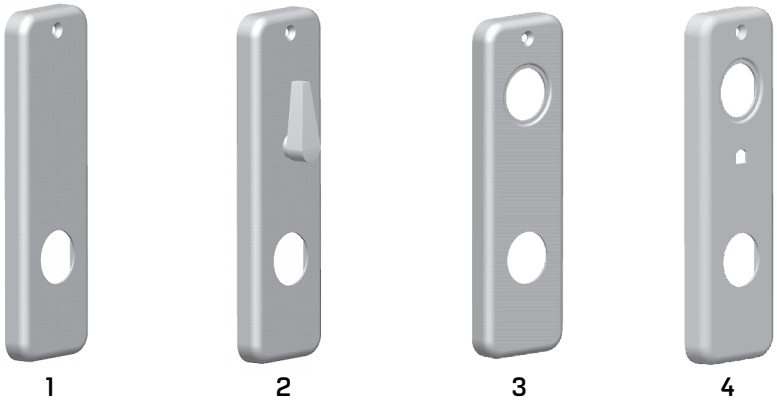


Figure 5.28 Inside J trim escutcheons

M & N trim outside escutcheons

M and N trim outside escutcheon assemblies are described in the table and figures below.

Item	Description	Functions	Part number
1	M trim outside blank escutcheon	For lever one side only applications	C44451
2	M trim outside escutcheon for 45H	For lever only applications	C44452
3	M trim outside escutcheon for 45H	XR	C44453
4	M trim outside escutcheon for 45H	A, AB, AT, B, BA, BW, B5, B7, C, CHB, D, DEL, DEU, G, HJ, IND, INL, R, RHB, S, T, TA, TD, TDEL, TDEU, TWEL, TWEU, W, WEL, WEU	C44454
5	M trim outside escutcheon for 45H	L, LB, LT	C44455
6	M trim outside escutcheon for 47H	XR	B45221[a]
7	M trim outside escutcheon for 47H	A, AB, AT, B, BA, BW, B5, B7, C, CHB, D, DEL, DEU, G, HJ, IND, INL, R, RHB, S, T, TA, TD, TDEL, TDEU, W, WEL, WEU	B45222[a]
8	N trim outside escutcheon for 45H	XR	C44458
9	N trim outside escutcheon for 45H	A, AB, AT, B, B5, B7, D, DEL, DEU, G, IND, INL, R, RHB, S, T, TA, TD, TDEL, TDEU, W, WEL, WEU	C44459

a. These escutcheon assemblies include the hardened security plate (A34377).

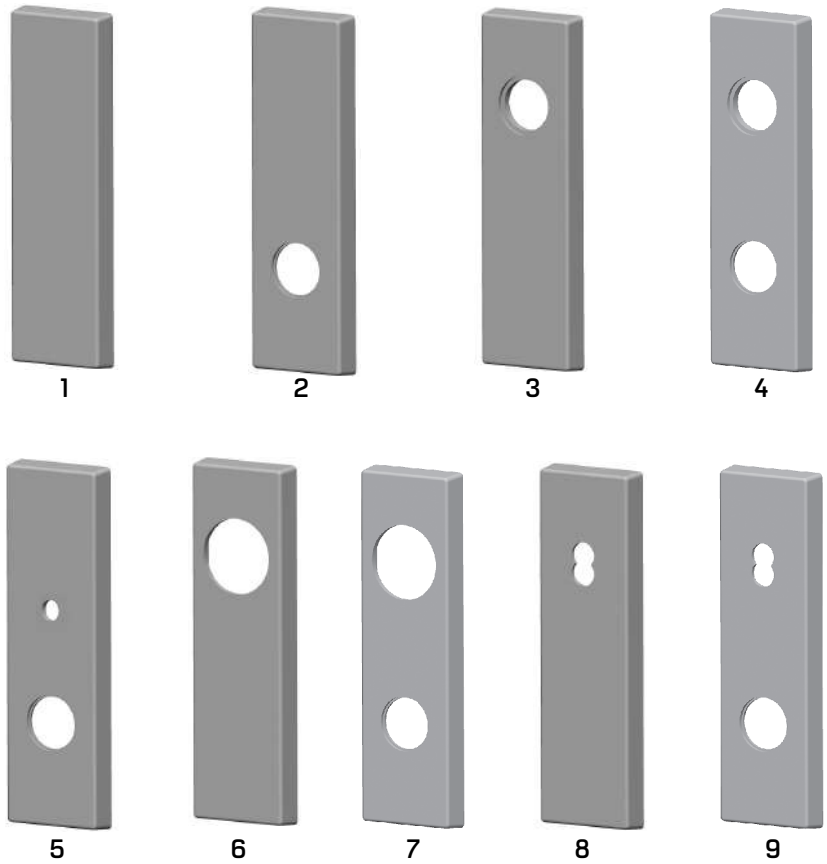


Figure 5.29 Outside M & N trim escutcheons

M & N trim inside escutcheons

M and N trim inside escutcheon assemblies are described in the table and figures below.

Item	Description	Functions	Part number
1	M & N trim inside escutcheon for 45H	A, AT, B5, B7, D, DEL, DEU, NXEL, NXEU, R, RHB, TDEL, TDEU, XR	C44462
2	M trim inside escutcheon for 45H	C, CHB, G, IND, INL, S, TWEL, TWEU, W, WEL, WEU	C44464
3	M & N trim inside escutcheon for 45H N	AB, B, BA, BW, LEL, LEU, TA, TD	B45210[a]
4	trim inside escutcheon for 45H	CHB, G, IND, INL, S, TWEL, TWEU, W, WEL, WEU	C44469
5	M trim inside blank escutcheon for 45H M	For lever one side only applications	D44461
6	trim inside escutcheon for 45H	For lever one side only applications with only a cylinder on the inside	C44463
7	M trim inside escutcheon for 47H	C, CHB, G, IND, INL, S, TWEL, TWEU, W, WEL, WEU	B45223[b]
8	M trim inside escutcheon for 47H	For lever one side only applications with only a cylinder on the inside	B45220[b]

a. For part numbers for door thicknesses other than 1 3/4″, contact your local dormakaba Representative.
b. These escutcheon assemblies include the hardened security plate (A34377).

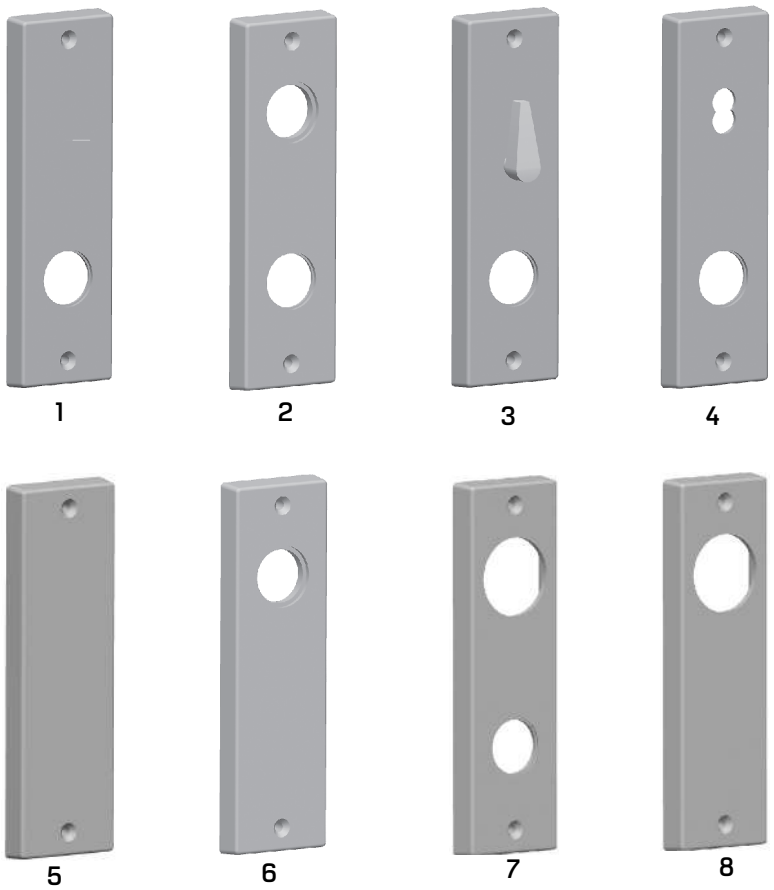


Figure 5.30 Inside M & N trim escutcheons

Roses and rose rings

Rose and rose ring components are described in the table and figure below.

Item	Description	Part number	
		Rose	Ring
1	H trim	A44070	B44182
2	R trim	A44074	B44182
3	S trim	A44080	B44182

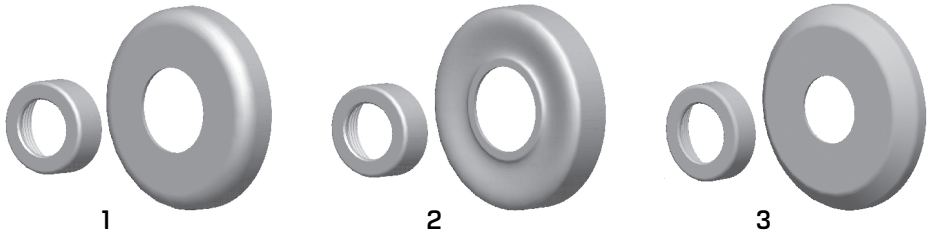


Figure 5.31 Roses & rose rings

Dummy trim

Dummy trim parts are described in the table and figures below.

Item	Description	Part number	1DT (qty.)	2DT (qty.)
1	Dummy trim rose ring[a]	B44183		
2	Outside trim mounting plate	B35027		1
3	Dummy trim assembly	A45050	1	2
4	Inside trim mounting plate	A35028	1	1
5	40H Trim cassette mounting screw (for 1 3/4″ to 2 1/4″ thick doors)	A44215[b]		2
6	Single dummy trim mounting screw (#8 × 1″ PFH surface mounting)[c]	A39217	2	

a. Used with double dummy trim for single dummy trim applications.
b. For part numbers for door thicknesses other than 13/4″, contact your local dormakaba Representative.
c. For information to order screw kits, see page 5–19.

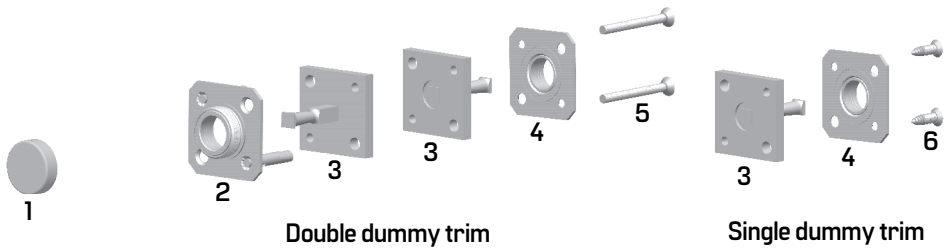


Figure 5.32 Dummy trim parts

VISUAL INDICATOR TRIM

The table below lists visual indicator trim components. Sectional trim and J style trim are shown below. Visual indicator trim is not available for M & N trim.

Item	Description	Part number	Sectional trim (qty.)	J trim (qty.)
1	Keyed visual indicator cover	B44510	1	
2	Visual indicator dial assembly (deadbolt)	A45053	1	1
not shown	Visual indicator dial assembly (latchbolt)	A45052	1	1
not shown	Visual indicator bracket mounting screw[a]		2	
3	Visual indicator mounting bracket	B44512	1	
4	J trim outside escutcheon for keyed visual indicator	D44094		1
not shown	J trim inside escutcheon for keyed visual indicator	D44084		1
5	J trim escutcheon cam spacer	B44515		1
6	Privacy visual indicator cover	B44511	1	
7	J trim outside escutcheon for privacy visual indicator	D44095		1

a. For information to order screw kits, see page 5–19.

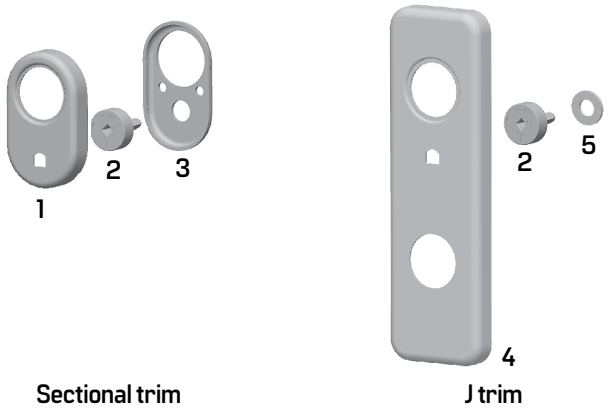


Figure 5.33 Keyed visual indicator trim

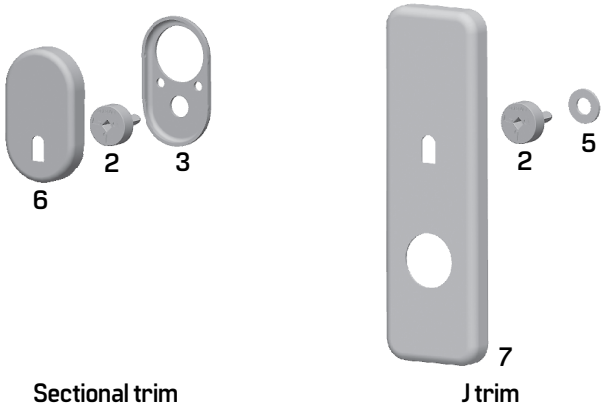


Figure 5.34 Privacy visual indicator trim

SERVICE EQUIPMENT

Tools for use with 40H Series Locks are described in the table and figure below.

Item	Nomen-clature	Description	Used for
1	ED212	Mortise cylinder cam assembly tool	Tool for assembling cams to mortise cylinders
2	ED211	Cylinder wrench	Tool for installing, removing, and testing cylinders
3	KD316	Spanner wrench	Tool for installing sectional trim
4	1233659	Allen wrench (1/8″)	Tool for installing and removing the inside lever
5	ED225	Cylinder tap	Tool for rethreading case threads
6	ED221	Cylinder die	Tool for rethreading 1 5/32″ diameter cylinders

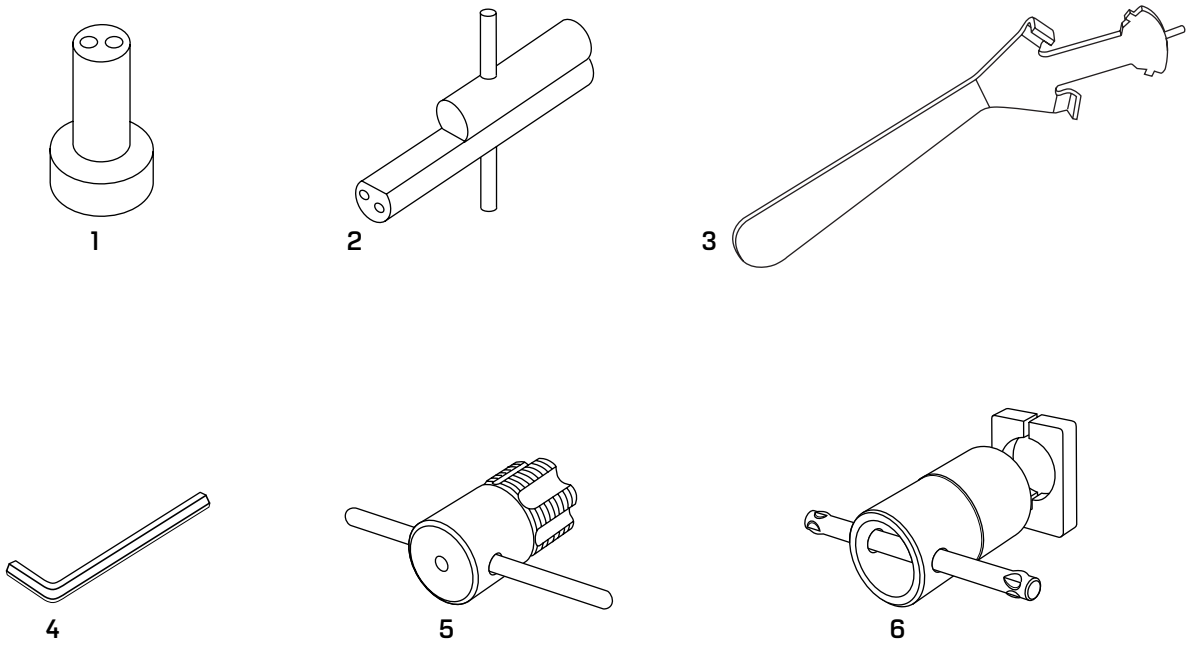


Figure 5.35 Service equipment

DRIVER BITS

Special driver bits for security head screws are described in the table and figure below.

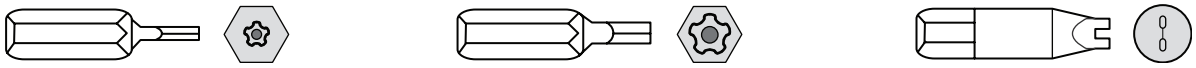


Figure 5.36 Driver bits

Type	Part number	Used for
TORX T15[a]	A34457	Security head trim mounting screw, thumb turn mounting screw, faceplate screw
TORX T25	A34458	Security head case mounting screw, strike screw
Spanner head	A34407	Lever set screw

a. TORX is a registered trademark of the Camcar Division of Textron.

ACCESSORIES FOR ELECTRIFIED LOCKS

Accessories for use with 45HW & 47HW Series Electrified Mortise Locks are described in the table and figure below.

Item	Nomenclature	Description
1	8W599	Transformer (converts 120 volts AC to 24 volts AC)
2	8WCON	AC to DC converter full wave bridge rectifier
3	8WDTL	Door transfer loop
4	8WMOV	Metal oxide varistor
5	8WTCM	Temperature control module
not shown	CECB 179-66 CECB 168-66 CECB 191-66	Electrified hinge[a]

a. dormakaba recommends one of the listed concealed electric hinges. For more information, contact your dormakaba representative.

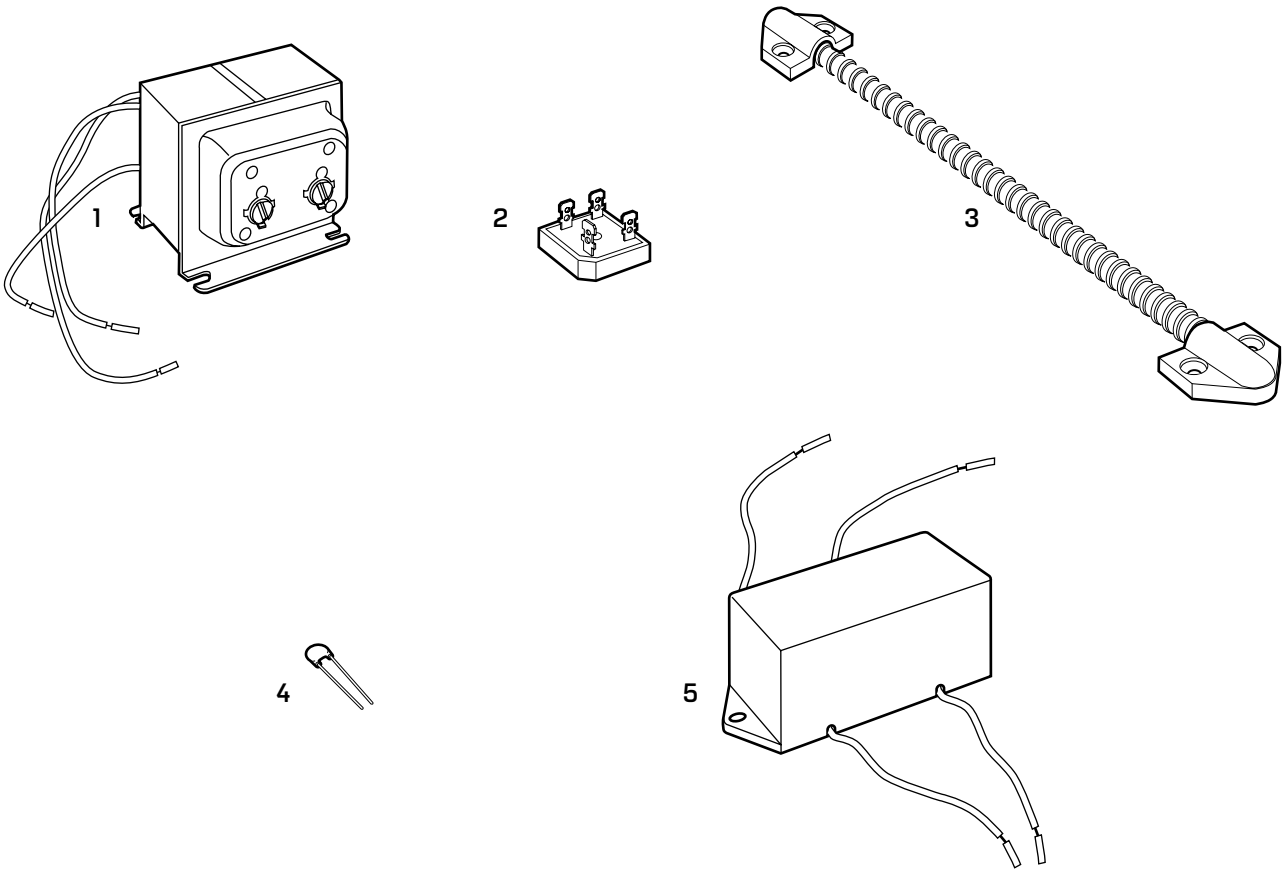


Figure 5.37 Accessories for electrified locks

6 SERVICE AND MAINTENANCE

This chapter contains instructions for servicing and maintaining 45H & 47H Locks and 45HW & 47HW Locks. For instructions for servicing and maintaining 48H & 49H Locks, see *Troubleshooting* on page 7-8.

CHANGING THE HAND

This section describes how to change the hand and/or bevel of the 45H , 47H, 45HW & 47HW mortise case. The section includes a quick reference and instructions.

Changing hand quick reference

Review the diagram below to understand the hand and bevel of the door.

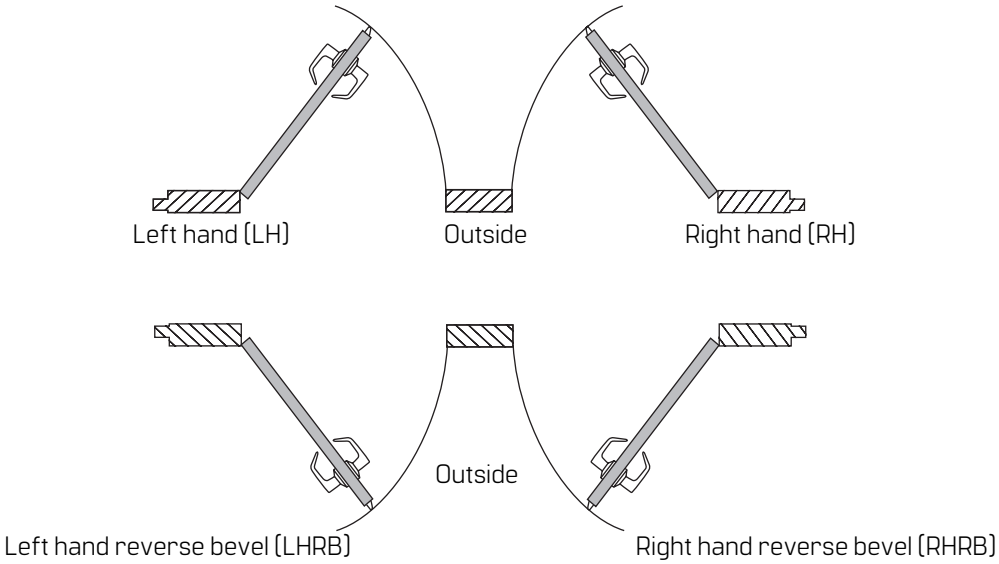


Figure 6.1 Explanation of the hand and bevel of the door

Changing handing for the mortise case

The handing of a 45H & 47H mortise case or 45HW & 47HW mortise case can be changed without opening the case. To change the hand, you need to rotate the latchbolt. For all lock functions except W and N, you also need to adjust the hub toggle positions. No steps are required for adjusting the bevel since the armored front on the 45H & 47H mortise case automatically adjusts to the bevel of the door when the case is installed.

To rotate the latchbolt:

1. Confirm that 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. 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 6.2.
3. Rotate the latchbolt 180 degrees and allow it to retract.

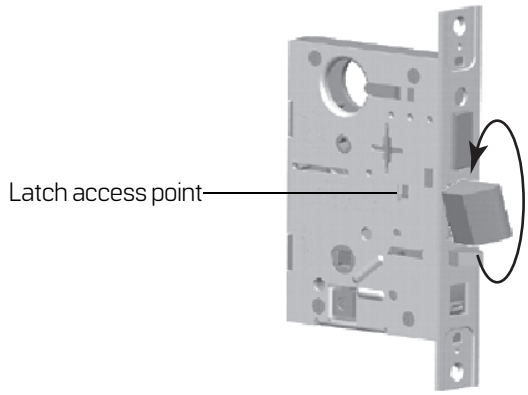


Figure 6.2 Rotating the latchbolt

To change the position of the hub toggles:

1. Refer to the table below and determine the proper position for the hub toggles.

Function	Hub toggle position
A, AB, AT, C, CHB, D, DEL, DEU, H, HJ, IND, INL, L, LEL, LEU, LT, NX, NXEL, NXEU, R, RHB, T, TA, TD, TDEL, TDEU, TWEL, TWEU, WEL, WEU, XR, ZD	Inside down (always unlocked) & outside up (lockable)
B, BA, BW, B5, B7, G, LB, S, W	Both up
N	Both down

Note: For LH and LHRB doors, the inside is the back side of the case and the outside is the cover side of the case. For RH and RHRB doors, the inside is the cover side of the case and the outside is the back side of the case.

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. See Figure 6.3.

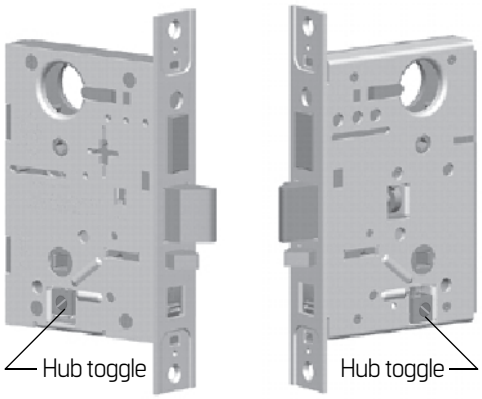


Figure 6.3 Positioning the hub toggles

CHANGING THE FUNCTION FOR UNIVERSAL CASES

This section provides instructions for changing the function for the 45H & 47H universal mortise cases (UNR, UNAB, and UNT). For information about which inside and outside trim kits to use with each function, see *Working with trim kits* on page 2-3.

Changing the function for UNR cases

The UNR mortise case can be configured for any of the following functions:

- A
- AT
- D
- INL
- N
- NX
- R

To convert the UNR case from one function to another, you need to adjust the shuttle screw positions and possibly the hub toggle positions.

To adjust the shuttle screw positions:

Refer to the table and guidelines below. Also, see Figure 6.4.

Note: To position the shuttle, insert a screwdriver into the opening for the thumb turn hub and rotate the shuttle.

- *For an N function*, position the shuttle towards the face of the case and move the shuttle screw from position 0, 2, or 3 to position 1. If converting from an A function configuration, move the shuttle screw from position 4 to position 5.
- *For a D, NX, or W function*, position the shuttle towards the back edge of the case and move the shuttle screw from position 0, 1, or 2 to position 3. If converting from an A function configuration, move the shuttle screw from position 4 to position 5.
- *For an A function*, position the shuttle in the middle of the case and move the shuttle screw from position 0, 1, 2, or 3 to position 4. Then move the shuttle screw from position 5 to position 2.

Function	Shuttle screw positions
A	2 & 4
AT, INL, R	0 & 5
D, NX, W	3 & 5
N	1 & 5

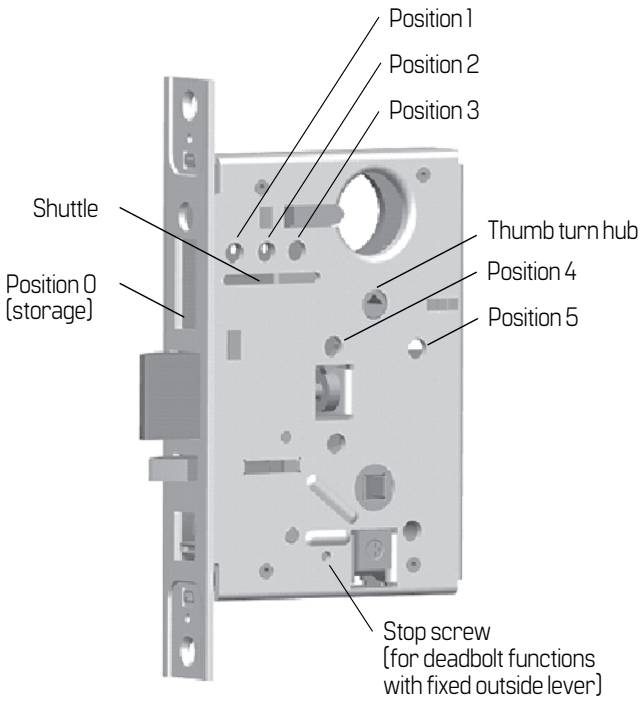


Figure 6.4 Positioning the shuttle screws and stop screw

To change the position of the hub toggles:

See *To change the position of the hub toggles:* on page 6–3.

Changing the function for UNAB cases

The UNAB mortise case can be configured for any of the following functions:

- AB
- TA
- TD

When converting from a TA or AB function configuration to a TD function configuration, install the self-tapping stop screw. See Figure 6.4.

When converting from a TD function configuration to a TA or AB function configuration, remove the stop screw. See Figure 6.4.

Changing the function for UNT cases

The UNT mortise case can be configured for either the L or T function. No change to the mortise case is required when changing between these functions; only trim changes are required.

TROUBLESHOOTING

This table summarizes the possible causes for certain lock problems.

For problems with the core and key, such as difficulty removing or inserting the key or difficulty turning the key, see the *Core and Key Service Manual*.

You notice...	Possible causes include...	You should...
Knobs or levers won't turn.	a. Spindle is not backed off.	a. Unscrew the inside spindle one full turn to allow the spindle to turn freely.
	b. Trim is out of alignment.	b. Loosen the trim and realign it so that the deadbolt does not bind.
Inside knob or lever does not remain unlocked.	Handing is reversed.	Change the handing (pg. 6-2).
Outside knob or lever won't lock.	Handing is reversed.	Change the handing (pg. 6-2).
Outside knob or lever droops.	Spindle has been twisted.	Replace the spindle (pg. 5-16).
Key will not operate latch or deadbolt.	a. Incorrect cam has been installed.	a. Install cylinder with proper cam (pg. 5-20).
	b. Cam has fallen to an inverted position.	b. Rotate the cam to the home position with a mortise wrench before installing the core.
Core will not install.	Cam has fallen to an inverted position.	Rotate the cam to the home position with a mortise wrench before installing the core.
Deadbolt will not or is difficult to retract or extend.	Trim is out of alignment.	Loosen the trim and realign it so that the deadbolt does not bind.
Deadbolt on deadbolt-only function will not extend.	Lock was ordered as an RD function.	Check the part nomenclature and ensure the RD function is needed for the application.
Deadbolt on deadbolt-only function will not retract.	Handing has been ordered incorrectly.	Check to ensure the case and thumb turn cylinder are the correct handing for the door. If not, order the correct case and thumb turn cylinder.
Lock does not function properly.	Universal case is incorrectly configured.	Configure the case to the desired function (pg. 6-5).

7

48H & 49H Locks

The following pages contain information about 48H & 49H Lock parts and maintenance.

Function Quick Reference

48H / 49H Functions	Description page number	Diagram page number
K	See page 7–2	See page 7–3
L	See page 7–2	See page 7–3
M	See page 7–2	See page 7–3
R	See page 7–2	See page 7–4

FUNCTION DESCRIPTIONS

The following lists describe how the deadbolt operates for 48H & 49H cylinder deadlock functions. When ordering a deadlock, specify the handing of the door.

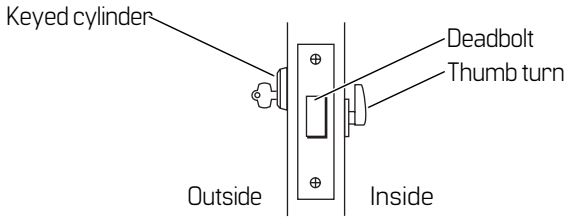
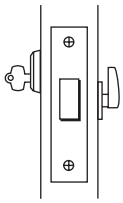


Figure 7.1 Understanding function drawings

Warning!

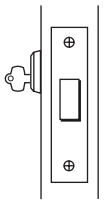
Locks that secure both sides of the door are controlled by building codes and the Life Safety Code. In an emergency exit situation, failure to quickly unlock the door could be hazardous or even fatal.

K–Cylinder deadlock



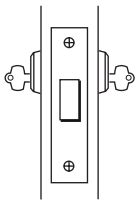
Deadbolt operated by:
- inside thumb turn
- outside key

L–Cylinder deadlock



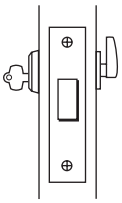
Deadbolt operated by:
- outside key

M–Cylinder deadlock



Deadbolt operated by:
- inside or outside key

R–Cylinder deadlock



Deadbolt operated by:
- outside key
- inside thumb turn

Note 1: Specify the hand of the door.
Note 2: Inside turn knob retracts the deadbolt, but does not project it.
Note 3: Can be used on 1 3/4" thick doors only.

48H & 49H MORTISE CASE PARTS

The following pages contain exploded diagrams and parts lists for 48H & 49H mortise cases.

K FUNCTION CASE—CYLINDER DEADLOCK
L FUNCTION CASE—CYLINDER DEADLOCK
M FUNCTION CASE—CYLINDER DEADLOCK

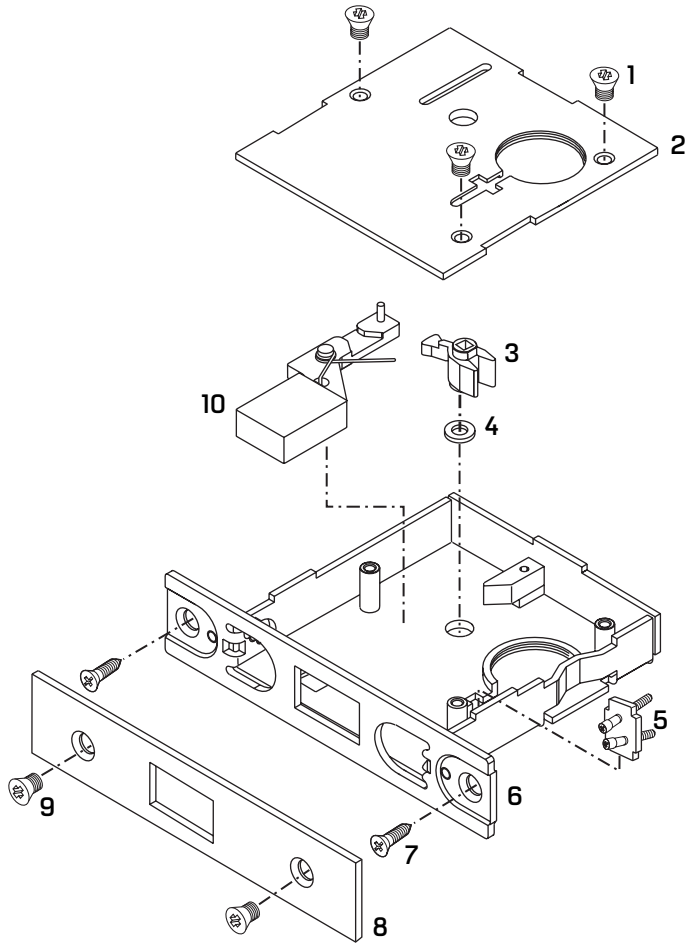


Figure 7.2 K, L, M function case

K, L, M function parts list

Refer to Figure 7.2 and the table below to find the part you need.

Item	Part No.[a]	Qty.	Description
1	A34087	3	Case cover mounting screw
2	C34351	1	Cover
3	C34011	1	Turn knob hub
4	A34194	1	Turn knob hub spacer
5	A35022	1	Double cylinder clamp plate
6	B35402	1	Case sub-assembly
7	A18724	2	Case mounting screw (#12-12 × 3/4" PHFH)
8	B34353	1	Faceplate
9	A18722	2	Faceplate screw (#8-32 × 1/4" PHFHMS)
10	B35399	1	Deadbolt

a. For a complete case, use B35403.

R FUNCTION CASE—CLASSROOM DEADLOCK

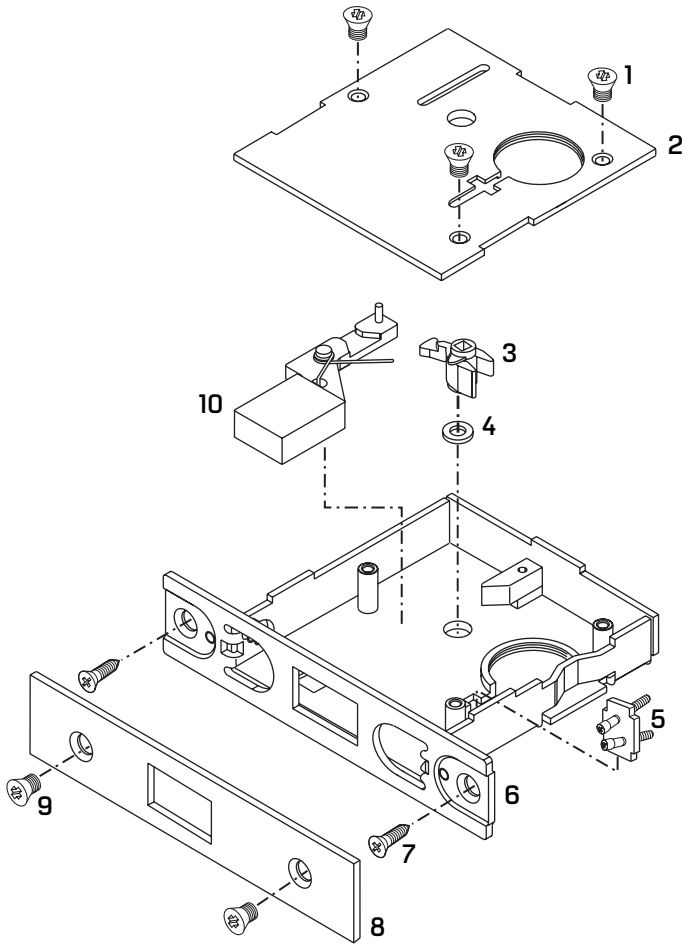


Figure 7.3 R function case

R function parts list Refer to Figure 7.3 and the table below to find the part you need.

Item	Part No.[a]	Qty.	Description
1	A34087	3	Case cover mounting screw
2	C34351	1	Cover
3	A63001	1	"R" turn knob hub (left hand)
not shown	A63002	1	"R" turn knob hub (right hand)
4	A34194	1	Turn hub spacer
5	A35022	1	Double cylinder clamp plate
6	B35402	1	Case sub-assembly
7	A18724	2	Case mounting screw (#12-12 × 3/4" PHFH)
8	B34353	1	Faceplate
9	A18722	2	Faceplate screw (#8-32 × 1/4" PHFHMS)
10	B35399	1	Deadbolt

a. For a complete LH case, use C45524. For a complete RH case, use C45525.

48H TRIM PARTS

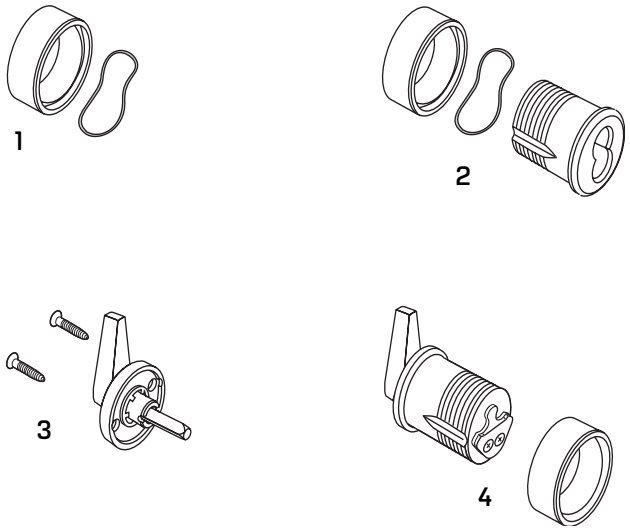


Figure 7.4 Deadbolt trim

Parts list Refer to Figure 7.4 and the table below to find the trim part you need.

Item	Part No.	Description	Qty. per function K	L	M	R
1	B35103	Cylinder ring assembly for single-keyed functions[a]	1	1		1
not shown	B35105	Cylinder ring assembly for double-keyed functions[†]			2	1
2	See page 5–3	OS4 trim kit	1	1	2	1
3	See page 5–7	IS5 trim kit	1			
4	B35401	Turn knob cylinder for right hand doors				1
not shown	B35405	Turn knob cylinder for left hand doors				1

a. Includes wavy washer.

49H HIGH SECURITY DEADBOLT TRIM PARTS

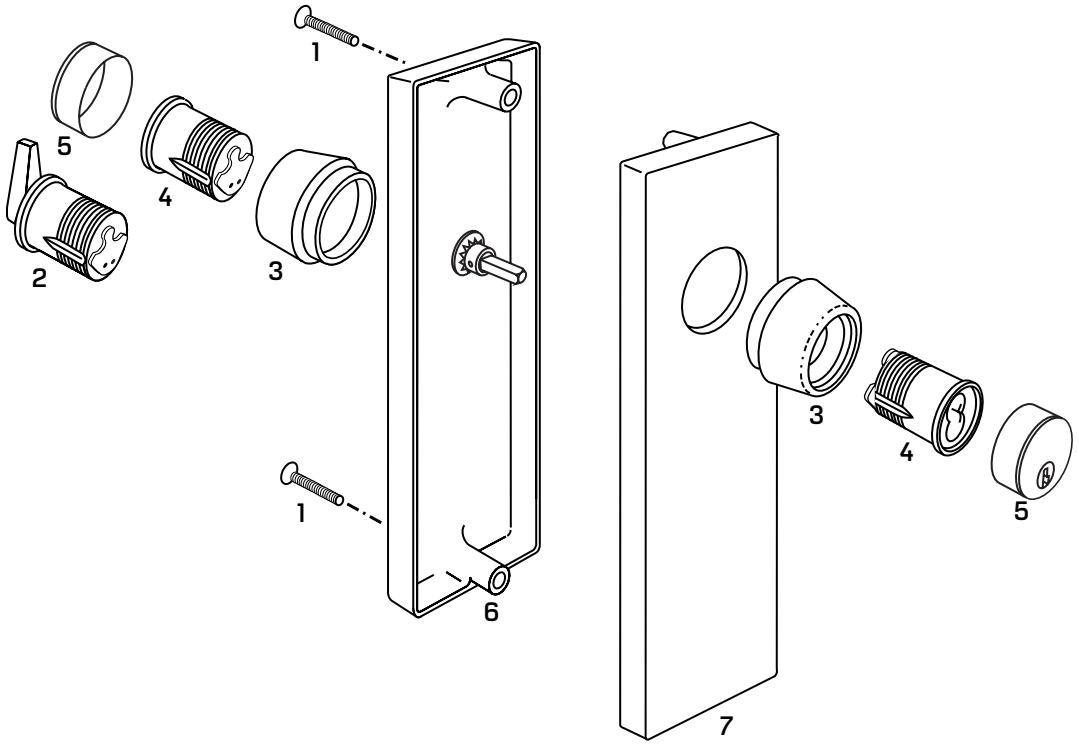


Figure 7.5 High security deadbolt trim

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

			Qty. per function			
Item	**Part No.**	**Description**	**K**	**L**	**M**	**R**
1	[a]	M trim escutcheon screw	1	1	1	1
2	B35519	Turn knob cylinder for right hand doors				1
not shown	B35520	Turn knob cylinder for left hand doors				1
3	C44470	High security cylinder ring	1	1	2	1
4	B19436	High security cylinder	1	1	2	1
5	B19563	Non-UL cylinder face	1	1	2	1
not shown	B19446	UL cylinder face	1	1	2	1
6	B45213	Inside escutcheon assembly	1			
not shown	C44463	Inside escutcheon assembly				1
not shown	B45220[b]	Inside escutcheon assembly			1	
not shown	C44461	Inside escutcheon assembly		1		
7	B45221[b]	Outside escutcheon	1	1	1	1

a. Use screw kit #2. For screw kit information, see page 5–19.
b. These escutcheon assemblies include the hardened security plate (A34377).

STRIKES AND STRIKE BOXES

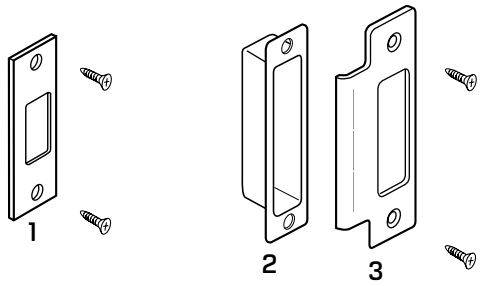


Figure 7.6 Strikes and strike box

Parts list Refer to Figure 7.6 and the table below to determine what strike part number to use for your 1 3/4″ thick door.

Item	Part No.	Description
not shown	C34361	48HS1 strike box
1	A34360	48HS1 strike (non-beveled)
2	B34380	48HS2 strike box
3	C18731	48HS2 strike (beveled)

TROUBLESHOOTING

This table summarizes the possible causes for certain lock problems.

For problems with the core and key, such as difficulty removing or inserting the key or difficulty turning the key, see the *Core and Key Service Manual*.

You notice...	Possible causes include...	You should...
Deadbolt will not extend.	Lock was ordered as an R function.	Check the part nomenclature and ensure the R function is needed for the application.
Deadbolt will not retract.	Handing has been ordered incorrectly.	Check to ensure the case and thumb turn cylinder are the correct handing for the door. If not, order the correct case and thumb turn cylinder.
Key will not operate deadbolt.	Incorrect cam has been installed.	Install cylinder with proper cam (pg. 7-5).

A

Glossary

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

Auxiliary dead latch — A latch that prevents the latchbolt from being loided when the door is closed. See *loiding*.

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

Bevel — See *Door bevel*.

Cam — See *Cylinder cam*.

Core — See *Interchangeable core*.

Cylinder — See *Mortise cylinder*.

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

Cylinder die — A tool for rethreading a 15/32 diameter cylinder.

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.

Cylinder tap — A tool for rethreading case threads.

Cylinder wrench — A tool for installing, removing, and testing cylinders.

Door bevel — The angle on the edge of a door.

Dummy cylinder — A nonfunctional mortise cylinder used only to plug a cylinder hole.

Dummy trim — Trim only (without lock). Used mainly on the inactive door of a double door.

Emergency key The key that retracts the deadbolt of a privacy lock (L or LT function).

Escutcheon A surface-mounted plate that covers holes that were made in the door for knobs 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 knob, cylinder, padlock, and so forth). See also *Interchangeable core*.

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 is a right-hand reverse bevel (RHRB) door, or a left-hand reverse bevel (LHRB) door respectively.

High edge of door bevel The edge of the door that is closer to the frame.

Hub toggle Mortise case feature used upon installation to configure the inside and outside knob/levers as always unlocked or lockable for selected lock functions.

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*.

Life Safety Code® A document, developed by the National Fire Protection Association (NFPA) that regulates building construction to prevent injury in case of fire. Code sections 2-4, and 5-2.1.5 apply to locks and latches.

Lock function The way a lock operates. The function determines appropriate applications for the lock, such as; how the latchbolt is operated, how the deadbolt is operated, and how the knobs/levers are locked and unlocked.

Locking toggle Mortise case feature that allows a user to lock or unlock the outside lever or knob for selected lock functions.

Loiding A burglary attack method that uses a credit card-like object. This object is inserted between the door and the frame to separate the latchbolt from the strike.

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 cylinder cam assembly tool A tool for assembling the cylinder cam to the mortise cylinder.

Mortise A rectangular cavity cut into the edge of a door. Can also 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*.

Removable core See *Interchangeable core*.

Reverse bevel See *Hand of door*.

Shifting cam A spring-loaded cam that shifts back to drive another mechanism. See also *Cylinder cam*.

Spanner wrench A wrench used to tighten a rose ring onto a door.

Stop screw Mortise case feature that fixes the position of the outside lever for TD, B, BW, H, and HJ deadbolt function locks.

Swing See *Hand of door*.

Tactile lever/knob A lever/knob with deep grooves cut into its surface or a lever with an abrasive strip affixed to the inside of the lever. Tactile levers and knobs improve grip and can also serve as a warning when entering hazardous areas.

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

Visual indicator A dial assembly, used primarily hotel function locks, that shows whether the deadbolt or latchbolt is locked. Icons on the dial indicate vacant or occupied status.

B

Installation Instructions

The following pages contain:

- *Installation Instructions for 45H & 47H Mortise Locks*
- *Installation Instructions for 45HW & 47HW Electrified Mortise Locks*
- *Installation Instructions for 48H & 49H Mortise Locks*

Installation Instructions for 45H & 47H Mortise Locks

BEST
dormakaba Group

Contents

These installation instructions describe how to install your 45H & 47H Mortise Lock. Topics covered include:

Finishing the door preparation 1
Configuring and installing the mortise case 3
Installing the trim 5
Finishing the installation 11

For instructions to install 45HW & 47HW electrified functions, see the *Installation Instructions for 45HW & 47HW Electrified Mortise Locks (T81612)*.

1 Identify holes to drill

1 Determine the lock function to be installed.
2 Determine the inside and outside, hand, and bevel of the door.
3 See the *Holes by Function* table and Figure 1 to determine the holes to be drilled for the lock function.

For hole sizes, see the H15 Template *(T81163).*

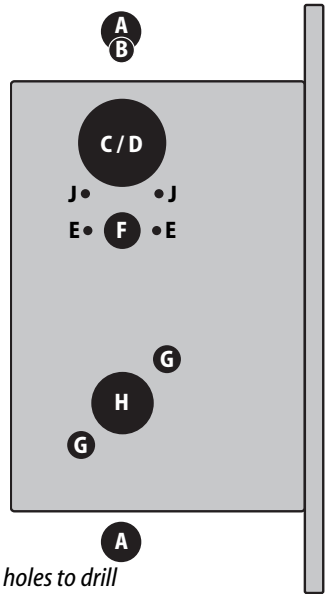


Figure 1 Identifying holes to drill

Holes by Function

Holes to drill	Functions: A, D, R, RHB, B5 I/S	A, D, R, RHB, B5 O/S	AB, AT, B, BA, BW, HJ, T, TA, TD I/S	AB, AT, B, BA, BW, HJ, T, TA, TD O/S	AD I/S	AD O/S	C, CHB, G, IND, INL, S, W, B7 I/S	C, CHB, G, IND, INL, S, W, B7 O/S	H I/S	H O/S	L, LB, LT I/S	L, LB, LT O/S	N, NX I/S	N, NX O/S	RD, WD I/S	RD, WD O/S	YD I/S	YD O/S
A M & N forged trim (2 holes)†	Through door		Through door		Through door		Through door		Through door		Through door		Through door		Through door		Through door	
B J trim†	Through door		Through door				Through door		Through door		Through door		Through door					
C Standard cylinder *or* **D** High security cylinder‡		■		■		■	■	■		■					■	■		■
E H, R & S trim thumb turn mounting screw (2 holes)†			■		■				■		■							
F Emergency key / thumb turn access			■		■				■	■	■	■						
G Trim mounting (2 holes)††	■	■	■	■			■	■	■	■	■	■	■	■				
H Lever††	■	■	■	■			■	■	■	■	■	■	■	■				
J H & R trim visual indicator mounting screw (2 holes)†										■								

† Determine trim holes based on trim type.
‡ To qualify for the UL 437 high security listing, use the M escutcheon and the 1E7J4 cylinder. The 1E7K4 cylinder is available for use with either M trim or sectional trim, but does not qualify for the UL437 high security listing. This option is not available for H and HJ function locks.
†† Because these holes pass through the mortise pocket, it is recommended that each hole be drilled separately rather than straight through.

BEST is a trademark of dormakaba USA Inc. ©2021 All rights reserved.

Finishing the door preparation

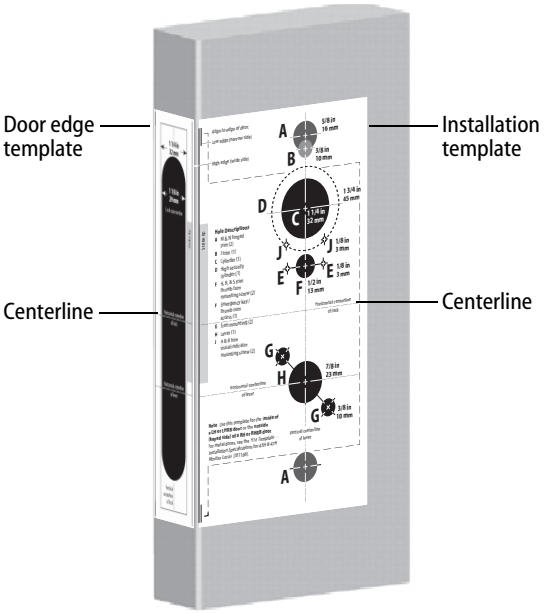


Figure 2 Aligning the templates

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* H16 Template—Installation Specifications for 45H & 47H Mortise Locks *(T81166).*

1 Separate the 4 templates provided on the *H15 Template—Installation Template for 45H & 47H Mortise Locks and 45HW & 47HW Electrified Mortise Locks* (T81163).

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.*

Note 3: *For trim outside only functions (such as ZD and ZR) and trim inside only functions (such as XD and XR), prepare surface mount trim holes on the trim side of the door as needed. Do not prepare trim holes on the opposite side of the door. For 1DT and 2DT hole preparation, see* H15 Template—Installation Template for 45H & 47H Mortise Locks and 45HW & 47HW Electrified Mortise Locks *(T81163).*

BEST is a trademark of dormakaba USA Inc. ©2021 All rights reserved.

Configuring & installing the mortise case

4 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 180 degrees and allow it to retract into the case.

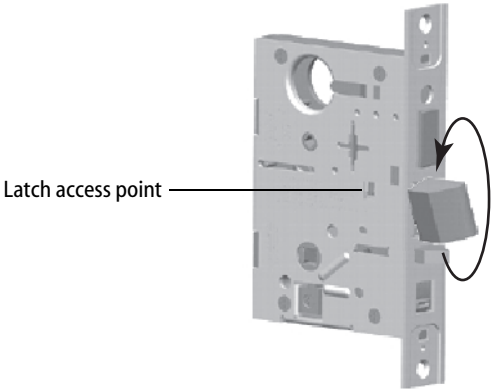


Figure 4 Rotating the latchbolt

5 Set shuttle screws *(UNR case only)*

Note 1: *The UNR (universal latch) mortise case is shipped with the shuttle screws in position 0 and position 5.*

Note 2: *To position the shuttle, insert a screwdriver into the opening for the thumb turn hub and rotate the shuttle.*

- *For an N function*, position the shuttle towards the face of the case and move the shuttle screw from position 0 to position 1.
- *For a D, NX, or W function*, position the shuttle towards the back edge of the case and move the shuttle screw from position 0 to position 3.
- *For an A function*, position the shuttle in the middle of the case and move the shuttle screw from position 0 to position 4. Then move the shuttle screw from position 5 to position 2.

Shuttle screw positions

Function	Shuttle screw positions
A	2 & 4
AT, C, INL, R, RHB	0 & 5
D, NX, W	3 & 5
N	1 & 5

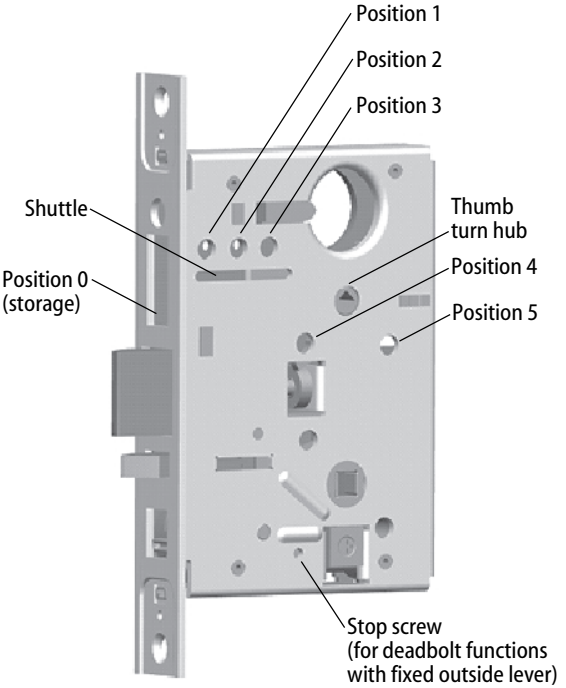


Figure 5 Setting the shuttle screws and stop screw

BEST is a trademark of dormakaba USA Inc. ©2021 All rights reserved.

Configuring & installing the mortise case

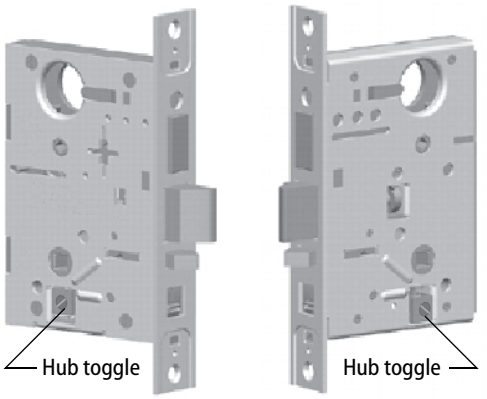


Figure 6 Positioning hub toggles

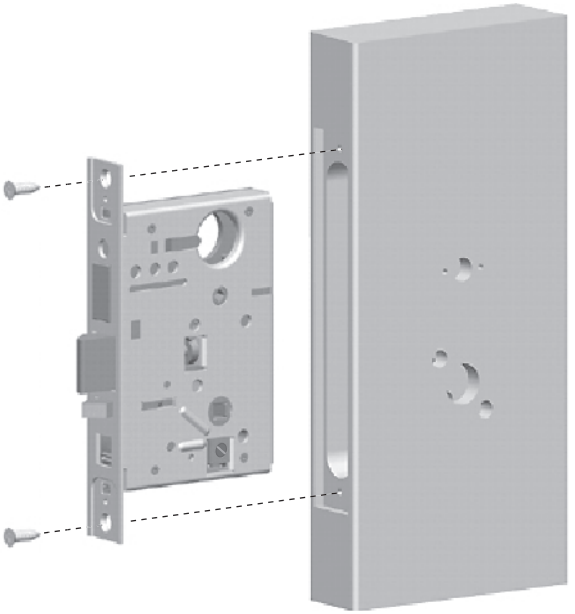


Figure 8 Installing the mortise case

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 6.

Hub toggle positions

Function	Hub toggle positions
A, AB, AT, C, CHB, D, H, HJ, IND, INL, L, LT, NX, R, RHB, T, TA, TD, X, XR, ZD	Inside down (always unlocked) & outside up (lockable)
B, BA, BW, B5, B7, G, LB, S, W	Both up
N	Both down

Note: *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.*

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 stop screw *(deadbolt functions with fixed outside lever only)*

Note: *The TD, BW, H, and HJ deadbolt functions, which have a fixed outside lever, require the stop screw.*

If converting a UNAB (universal deadbolt) mortise case to one of the above functions, install the self-tapping stop screw. See Figure 5 on page 3.

8 Install mortise case

1 Drill the holes for the case mounting screws.

2 Insert the mortise case into the mortise cavity.

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

3 Secure the mortise case with the case mounting screws.

BEST is a trademark of dormakaba USA Inc. ©2021 All rights reserved.

Installing the trim

9 Install trim mounting plates

1 *For J trim*, position the J alignment plate (*Figure 11b*) on the outside of the door.

Note: *For J trim on one side only, do not install the alignment plate.*

2 *For all trim*, insert the outside trim mounting plate through the door and mortise case.

Note: *For trim on one side only, surface mount the inside mounting plate to the trim side of the door using two #8 × 1" PFH surface mounting screws. Do not install the outside mounting plate.*

3 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.**

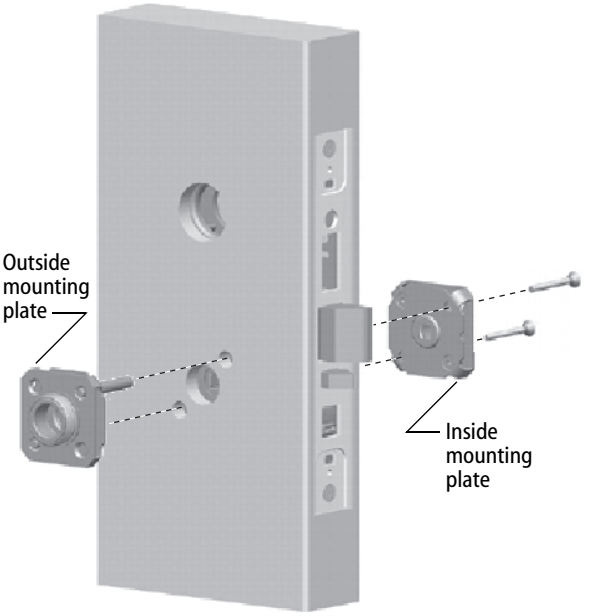


Figure 9 Installing the trim mounting plates

10 Install concealed cylinder *(N trim only)*

1 Use a cylinder wrench (ED211) to thread the cylinder into the mortise case so that the groove around the cylinder is even with the door surface.

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.

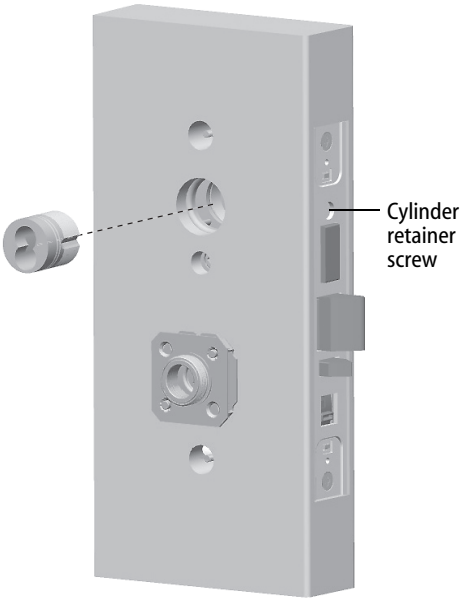


Figure 10 Installing the concealed cylinder

BEST is a trademark of dormakaba USA Inc. ©2021 All rights reserved.

Installing the trim

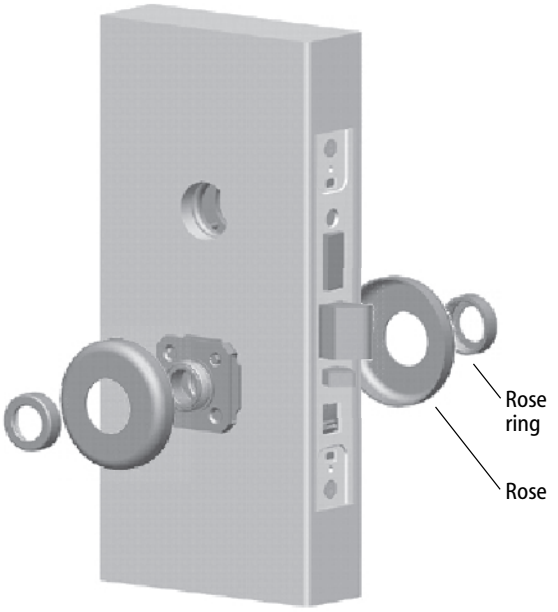


Figure 11a Installing the roses

11 Install roses or escutcheons

For sectional trim (Figure 11a)

1 Position the inside rose on the door so it is centered on the trim mounting plate.
2 Use the spanner wrench (KD316) to install the rose ring onto the inside mounting plate.
3 Position the outside rose on the door so it is centered on the trim mounting plate.
4 Use the spanner wrench to install the rose ring onto the outside mounting plate.

Note: *For instructions for installing the visual indicator with sectional trim, see Task 13 on page 8.*

For J trim (Figure 11b)

1 *For H function locks*, position the plastic spacer on the spindle of the visual indicator dial. With the deadbolt retracted, position the visual indicator (VIN) dial in the door with the text oriented at the top.
2 Position the inside escutcheon on the door so it is centered on the trim mounting plate. Install the escutcheon screw.
3 Use the spanner wrench (KD316) to install the trim ring onto the inside mounting plate.
4 Position the outside escutcheon on the door over the alignment plate.
5 Use the spanner wrench to install the trim ring onto the outside trim mounting plate.

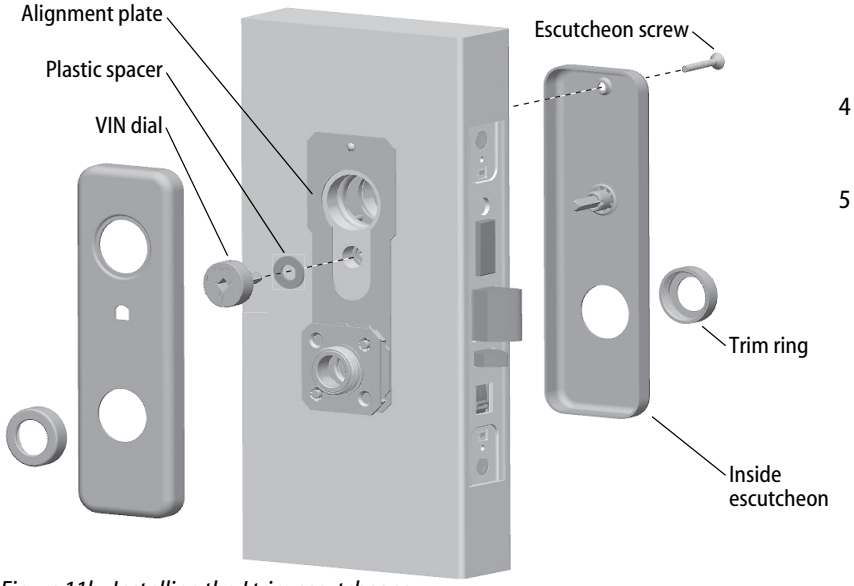


Figure 11b Installing the J trim escutcheons

BEST is a trademark of dormakaba USA Inc. ©2021 All rights reserved.

Installing the trim

For M trim (Figure 11c) or
N trim (Figure 11d)

1 Position the inside and outside escutcheons on the door so they are centered on the trim mounting plates.
2 Install the upper and lower escutcheon screws from the inside of the door.
3 Use the spanner wrench (KD316) to install the trim rings onto the inside and outside trim mounting plates.

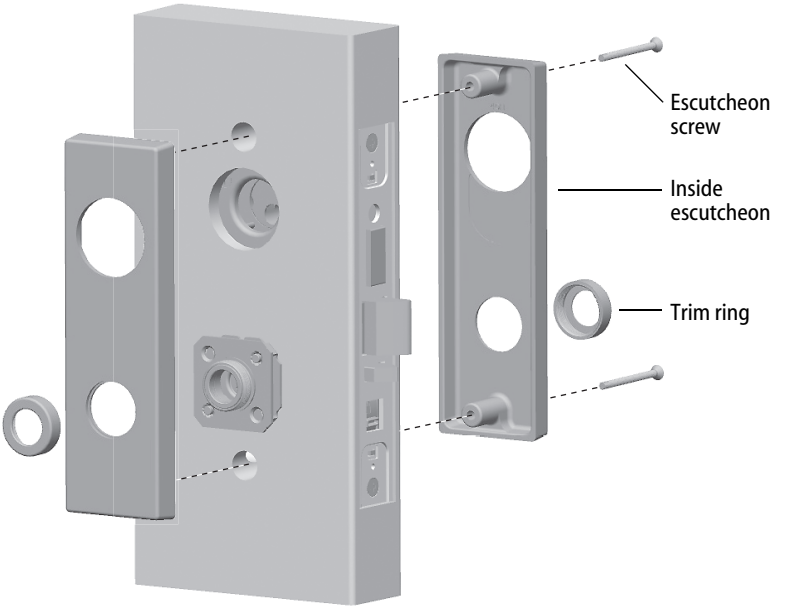


Figure 11c Installing the M trim escutcheons (47H M trim shown)

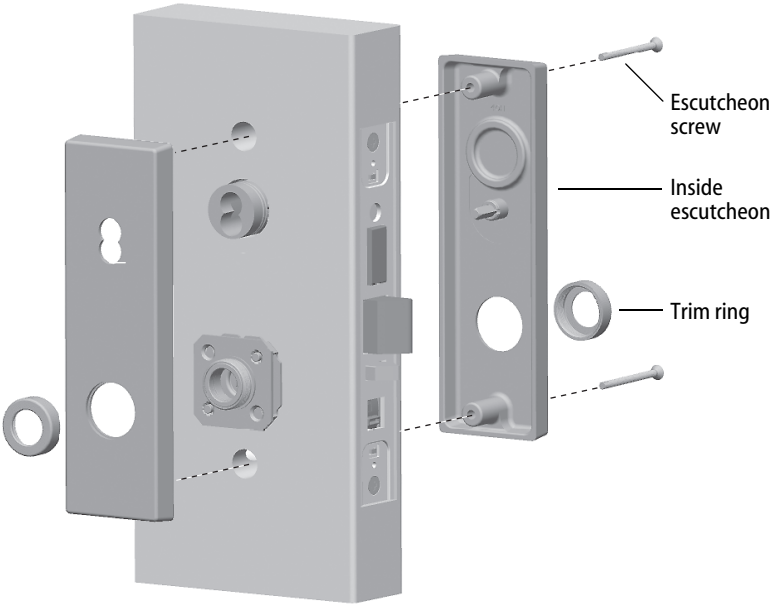


Figure 11d Installing the N trim escutcheons

BEST is a trademark of dormakaba USA Inc. ©2021 All rights reserved.

Installing the trim

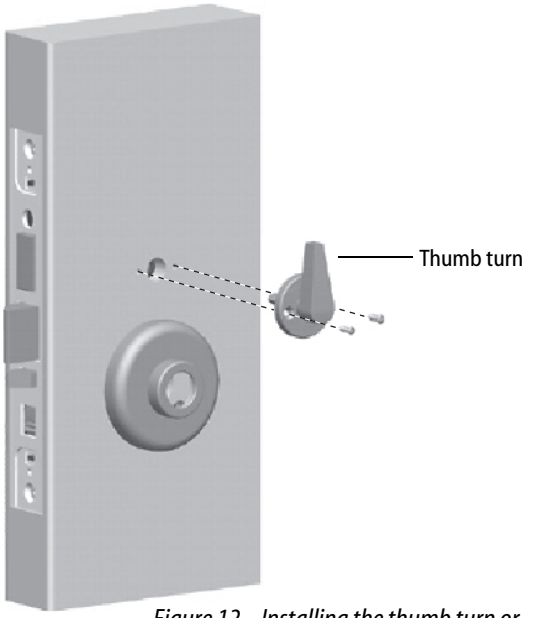


Figure 12 Installing the thumb turn or emergency access plate (not shown)

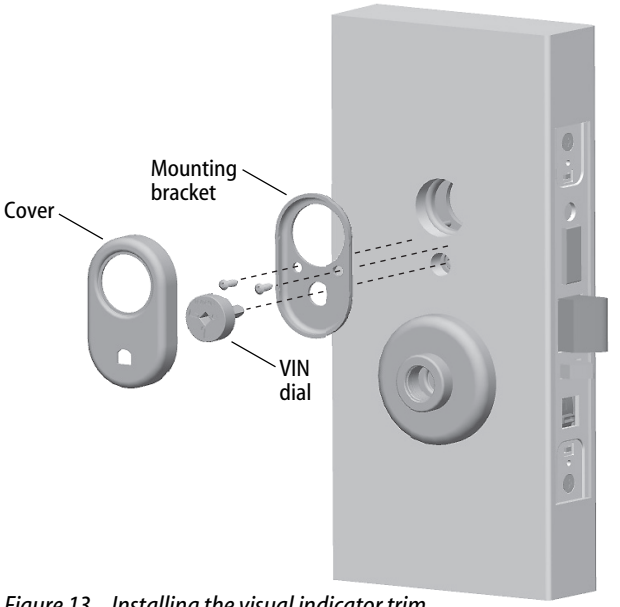


Figure 13 Installing the visual indicator trim

12 Install thumb turn or emergency access plate *(if necessary)*

Note 1: *To determine which functions require a thumb turn on the inside of the door, refer to the Holes by Function table on page 1.*

Note 2: *The UNR (universal latch) mortise case is shipped with a thumb turn. Install it only for an A or AT function lock.*

Note 3: *Install the emergency access plate on the outside of the door for privacy function (L, LB, LT) locks.*

1 Orient the thumb turn so it points up when the deadbolt is retracted and towards the hinge edge of the door when the deadbolt is extended.

2 Install the thumb turn or emergency access plate using the two screws provided. See Figure 12.

13 Install visual indicator trim *(H or R sectional trim)*

Note: *Install the visual indicator trim on the outside of the door for H function locks. The visual indicator also can be installed with other functions (such as IND, INL, L, LB, LT, TD) as needed. The visual indicator is available for H, R, and J trim.*

1 Aligning the cylinder opening in the visual indicator mounting bracket with the cylinder opening in the door, install the mounting bracket using the two screws provided.

2 Make sure that the deadbolt is retracted (the thumb turn is pointing up).

3 Orient the visual indicator (VIN) dial with the text at the top and position it in the door as shown in Figure 13.

4 Aligning the cylinder opening in the visual indicator cover with the cylinder hole in the door, press the cover onto the mounting bracket.

5 Rotate the thumb turn and check that the visual indicator operates properly.

Note: *The unlocked icon should show when the deadbolt is retracted. The locked icon should show when the deadbolt is extended.*

BEST is a trademark of dormakaba USA Inc. ©2021 All rights reserved.

Installing the trim

14 Install standard or high security cylinder *(if necessary)*

1 Using a narrow-blade screwdriver, insert the blade into the cylinder's figure-8 opening and back the set screw into the cylinder until the tip of the set screw is below the threads of the cylinder.

2 Make sure the washer (standard cylinder only) and cylinder ring are positioned on the cylinder.

3 Rotate the cylinder cam to the 12 o'clock position.

4 Use a cylinder wrench (ED211) to thread the cylinder into the mortise case.

For a standard cylinder, rotate the cylinder until the cylinder ring is flush against the door.

For a high-security cylinder, rotate the cylinder until the cylinder head touches the inside rim of the cylinder ring.

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

5 Using a narrow-blade screwdriver, insert the blade into the figure-8 opening and tighten the small set screw (installed in the cylinder) into the lock case.

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

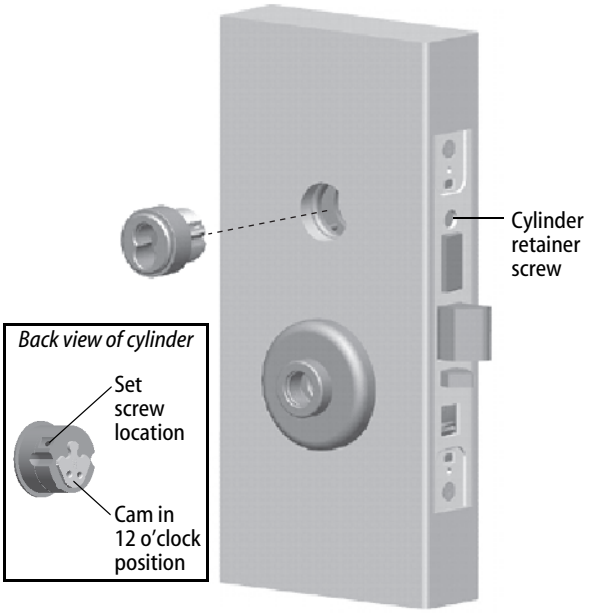


Figure 14a Installing the standard cylinder



Figure 14b Installing the high-security cylinder

BEST is a trademark of dormakaba USA Inc. ©2021 All rights reserved.

Installing the trim

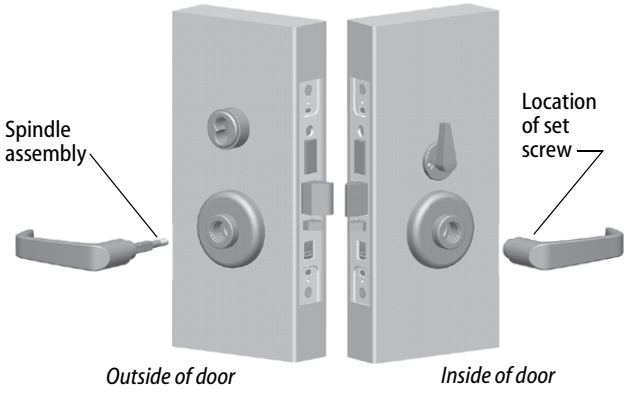


Figure 15a Installing the levers

15 Install inside and outside levers

For standard lever installation (Figure 15a)

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

Note: *Remove the label from the inside spindle.*

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

Note: *The 17 style lever is handed. The lever should curve downward when installed on the door.*

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

4 Turn the levers to check that they operate smoothly.

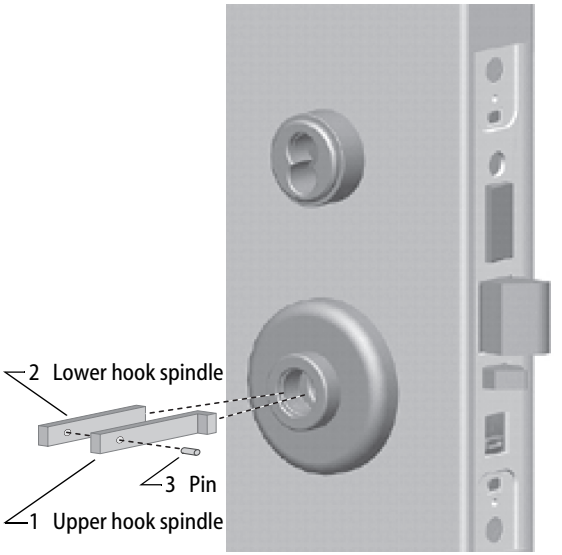


Figure 15b Installing the hook spindle

For one side only lever installation (Figure 15b)

For one side only lever installation, use a hook spindle.

Note: *The hook spindle can be installed on either side of the door, but the inside lever should always be used with the hook spindle.*

1 Insert the upper hook spindle into the hub cavity with the hook towards the latch as shown in Figure 15b.

2 Insert the lower hook spindle alongside the upper spindle and align the pin holes.

3 Push the pin into the spindles. Make sure the pin is fully inserted.

4 Slide the lever onto the spindle and secure with the set screw.

5 Turn the lever to check that it operates smoothly.

BEST is a trademark of dormakaba USA Inc. ©2021 All rights reserved.

Finishing the installation

16 Install mortise case faceplate

Note: *Most locks ship with only one faceplate. The UNAB and UNR locks ship with two faceplates each, allowing for multiple function configurations. For AB (UNAB) and A (UNR) function locks, use the faceplate that exposes the locking toggle.*

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

2 Check the lock for proper operation.

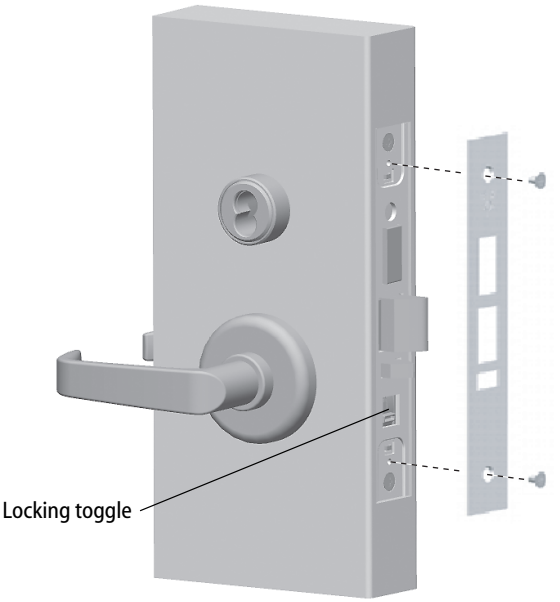


Figure 16 Installing the mortise case faceplate

17 Install strike box and strike plate

1 *If the door jamb has not been mortised for the strike box and strike plate*, perform these steps:
   a On the door jamb, locate the horizontal centerline of the strike (3/8″ above the centerline of the lock), as well as the vertical centerline of the strike.
   b Mortise the door jamb to fit the strike box and strike plate.
   c Drill the holes for the screws used to install the strike box and strike plate.

2 *If the strike box has a filled area*, orient the strike box so that the filled area is down.

3 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.

4 Check the position of the auxiliary bolt against the strike plate (or the filled area of the strike box).

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

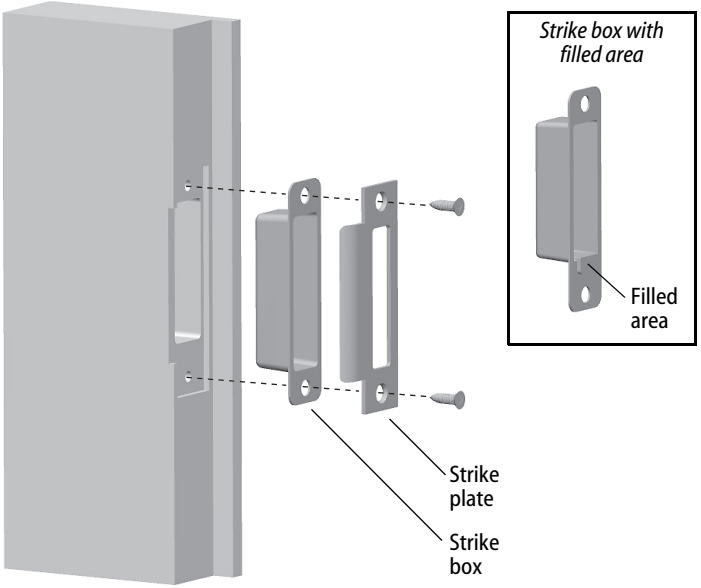


Figure 17 Installing the strike box and strike plate

BEST is a trademark of dormakaba USA Inc. ©2021 All rights reserved.

Finishing the installation

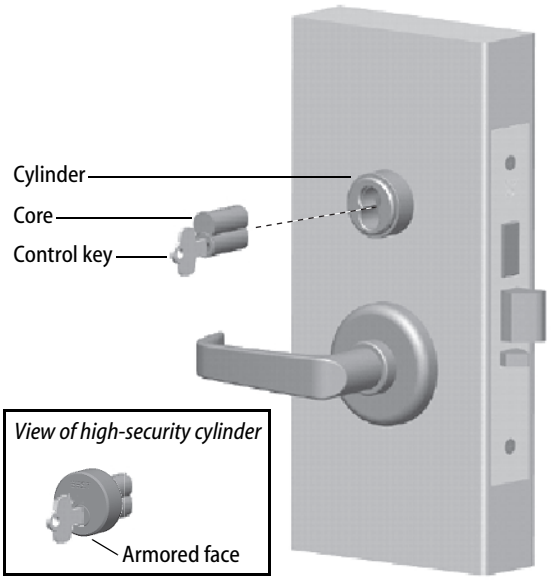


Figure 18 Installing the core(s)

Using the latch holdback feature

The latch holdback feature lets you temporarily operate a door with a CHB or RHB function mortise lock as a free-swinging door. When latch holdback is engaged, the latch stays retracted, and both the inside and outside levers become fixed pull handles.

To engage latch holdback:

1 With the lock unlocked and the door open, turn the inside lever to the up position.
2 While holding the inside lever in the up position, turn the key as if to lock the door.
3 Release the inside lever and remove the key at the 12 o'clock position. The latch and inside lever become fixed.

To disengage latch holdback:

1 Turn the key as if to unlock the door.
2 Remove the key at the 12 o'clock position. The latch and inside lever release, and the lock operates normally.

18 Install cores

1 *For a high-security cylinder*, slide the armored face down over the core.
2 Insert the control key into the core and rotate the key 15 degrees to the right.
3 With the control key in the core, insert the core and armored face (high-security cylinder only) into the cylinder.
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.**

19 Check operation

Check the operation of the lock. For example, check that:

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

For assistance, contact your local dormakaba representative.

BEST is a trademark of dormakaba USA Inc. ©2021 All rights reserved.

Installation Instructions for 45HW & 47HW Electrified Mortise Locks

BEST dormakaba Group

Contents

These installation instructions describe how to install your 45HW & 47HW Electrified Mortise Lock. Topics covered include:

Finishing the door preparation 2
Configuring and installing the mortise case 6
Installing the trim 8
Finishing the installation 13

For hole sizes, see the H15 Template *(T81163).*

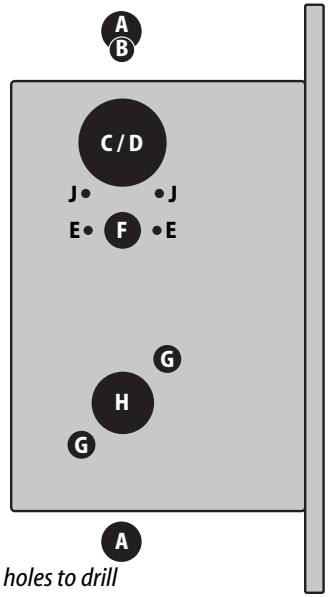
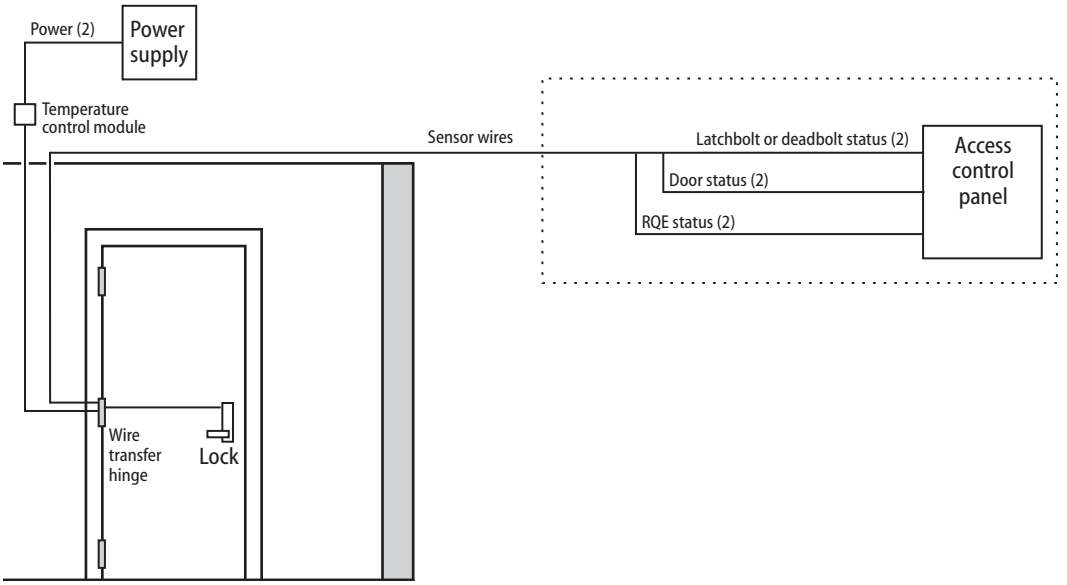


Figure 1 Identifying holes to drill



Wiring diagram for 45HW & 47HW Electrified Mortise Locks

BEST is a trademark of dormakaba USA Inc. ©2021 All rights reserved.

Finishing the door preparation

Holes by Function	Functions									
	DEL, DEU		TDEL, TDEU		TWEL, TWEU, WEL, WEU		LEL, LEU		NXEL, NXEU	
Holes to drill	I/S	O/S	I/S	O/S	I/S	O/S	I/S	O/S	I/S	O/S
A M & N forged trim (2 holes)†	Through door		Through door		Through door		Through door		Through door	
B J trim†	Through door		Through door		Through door		Through door		Through door	
C Standard cylinder *or* **D** High security cylinder‡		■		■	■	■				
E H, R & S trim thumb turn mounting screw (2 holes)†			■				■			
F Emergency key / thumb turn access			■				■	■		
G Trim mounting (2 holes)††	■	■	■	■	■	■	■	■	■	■
H Lever††	■	■	■	■	■	■	■	■	■	■

† Determine trim holes based on trim type.

‡ To qualify for the UL 437 high security listing, use the M escutcheon and the 1E7J4 cylinder. The 1E7K4 cylinder is available for use with either M trim or sectional trim, but does not qualify for the UL437 high security listing.

†† Because these holes pass through the mortise pocket, it is recommended that each hole be drilled separately rather than straight through.

1 Identify holes to drill

1 Determine the lock function to be installed.
2 Determine the inside and outside, hand, and bevel of the door.
3 See the Holes by Function table and Figure 1 on page 1 to determine the holes to be drilled for the lock function.

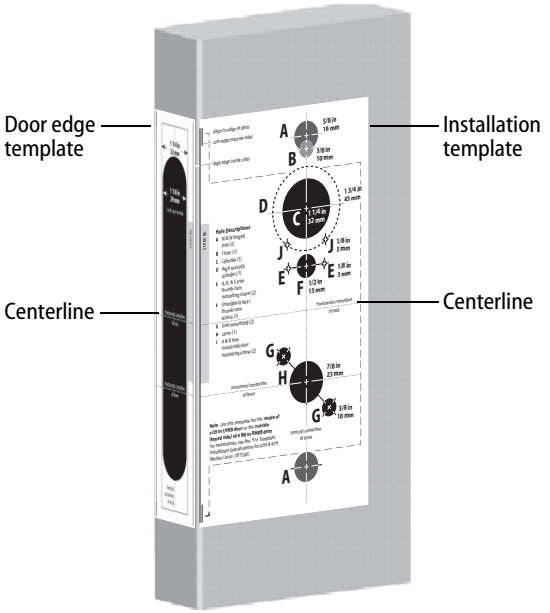


Figure 2 Aligning the templates

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* H19 Template—Installation Specifications for 45HW & 47HW Electrified Mortise Locks *(T81611).*

1 Separate the 4 templates provided on the *H15 Template—Installation Template for 45H & 47H Mortise Locks and 45HW & 47HW Electrified Mortise Locks* (T81163).
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.

BEST is a trademark of dormakaba USA Inc. ©2021 All rights reserved.

Finishing the door preparation

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 Drill wire channel through door

Caution 1: **Check with your local fire marshal before drilling a fire-rated door. Drilling through a fire-rated door may void the fire label.**

Caution 2: **Be careful to drill straight through the door, making sure the drill does not break through the face of the door.**

1 Remove the hinge nearest the mortise cavity.

2 Using a 3 to 4 foot drill bit, drill a 3/8″ diameter channel through the upper back of the mortise cavity to the center of the nearest hinge mortise.

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

5 Prepare door for door status switch *(optional for deadbolt function locks)*

1 Locate the centerpoint for the door status switch 2.5″ above the top of the faceplate mortise on the edge of the door (as shown in Figure 5).

2 Drill a 1″ diameter hole 1 3/4″ deep for the door status switch.

3 Position the drill so the tip of the bit is approximately 1″ into the hole and the bit is close to the top edge of the hole. Then drill a 3/8″ channel at approximately a 35° angle from the door status switch hole into the mortise cavity (as shown in Figure 5).

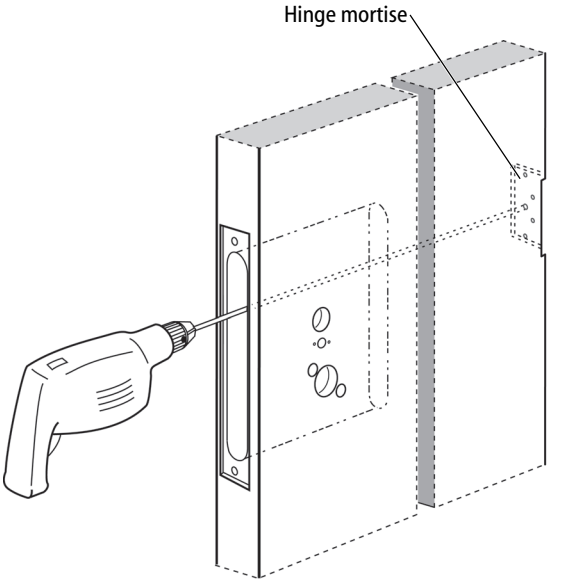


Figure 4 Drilling the wire channel through the door

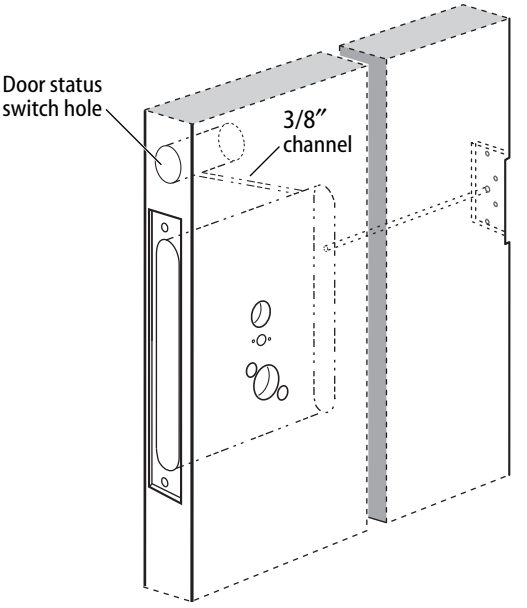


Figure 5 Preparing for the door status switch

BEST is a trademark of dormakaba USA Inc. ©2021 All rights reserved.

Finishing the door preparation

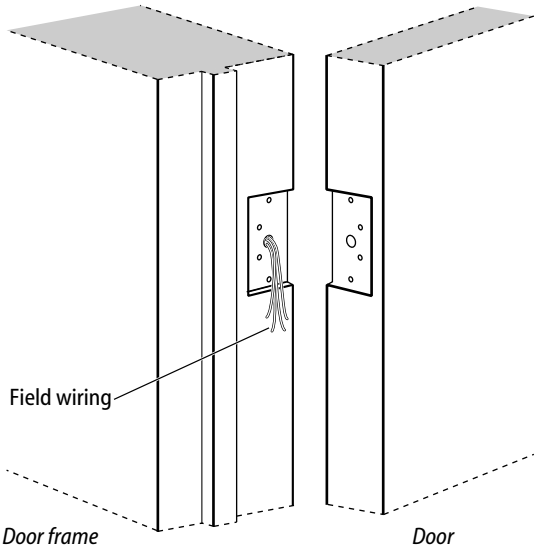


Figure 7 Running field wiring

6 Determine wire gauge for power wiring

1 Calculate the total length of the power wire run by summing:
   - The distance from the power supply to the first door.
   - If powering more than one door daisy-chained to the same power supply, add the total distance of the power runs between the doors.

2 For both 12 volt and 24 volt locks, refer to the table below to determine the minimum wire gauge based on the number of doors sharing the power supply and the total length of the wire run.

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

7 Prepare door for wire transfer hinge and run field wiring

1 Drill a wire access hole through the frame side of the hinge mortise where you removed the hinge in Task 4, Step 1 on page 3.

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

3 De-burr the holes to prevent damage to the hinge leads.

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

Note 1: *To match the lock's wire color, use yellow for 12 volts DC power and blue for 24 volts DC power.*

Note 2: *To minimize lever temperature, install an 8WTCM (temperature control module) in series with the power and ground wiring within 20 feet of the lock. Use only one 8WTCM per lock. This module is supplied with electrically locked (EL) functions and is optional with electrically unlocked (EU) functions.*

(Continued)

BEST is a trademark of dormakaba USA Inc. ©2021 All rights reserved.

Finishing the door preparation

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

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

Wire connection	Color	No. of wires
Deadbolt status sensor	Blue	2
Door status sensor	White	2
Latchbolt status sensor	Violet	2
RQE status sensor	Brown & Orange	2

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

8 Install door status switch *(optional for deadbolt function locks)*

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.**

2 Feed the wires for the door status switch into the door status switch hole and through the channel into the mortise cavity.

3 Insert the door status switch assembly into the door status switch hole.

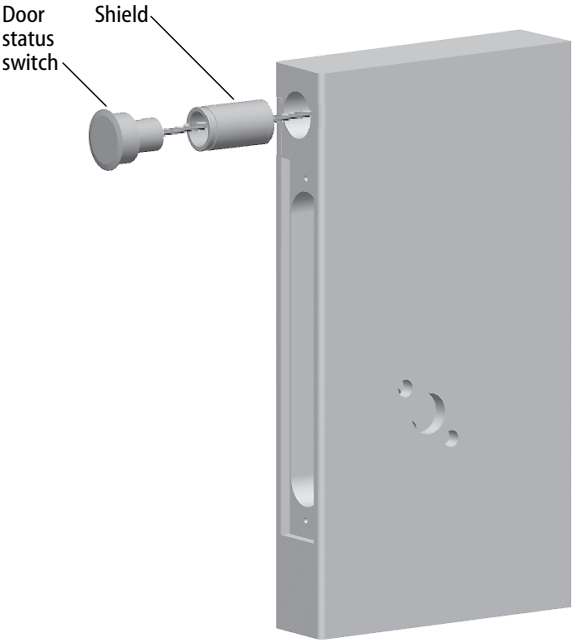


Figure 8 Installing the door status switch

BEST is a trademark of dormakaba USA Inc. ©2021 All rights reserved.

Configuring & installing the mortise case

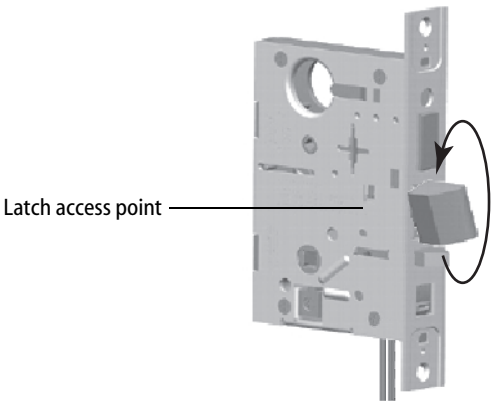


Figure 9 Rotating the latchbolt

9 Rotate latchbolt *(if necessary)*

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 (*Figure 9*).

3 Rotate the latchbolt 180 degrees and allow it to retract into the case.

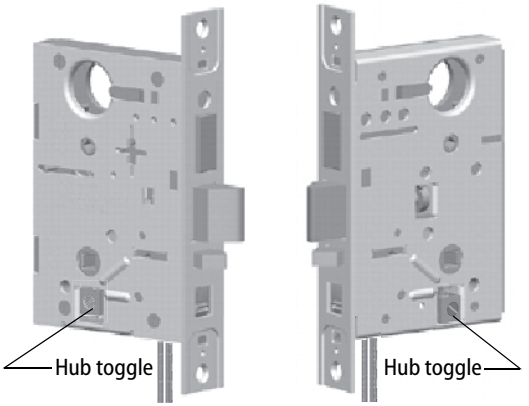


Figure 10 Positioning the hub toggles

10 Position hub toggles *(if necessary)*

1 Check whether the hub toggles are in the proper position for the lock (*Figure 10*). The inside hub toggle should be down (always latched) and the outside hub toggle should be 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 4 screws.*

Note 2: *If the lock has an optional RQE status sensor, two RQE status switches are installed in the mortise case. However, only the switch for the inside of 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.

BEST is a trademark of dormakaba USA Inc. ©2021 All rights reserved.

Configuring & installing the mortise case

11 Install mortise case

1 Drill the holes for the case mounting screws.

2 Insert the mortise case into the mortise cavity, feeding all sensor and solenoid wires into the mortise cavity.

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

3 From the hinge edge of the door, fish all sensor and solenoid wires from the mortise cavity through the wire channel to the hinge mortise.

4 Secure the mortise case with the case mounting screws (*Figure 11*).

12 Install wire transfer hinge

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

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

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

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

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

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

Note: *If the lock has an optional RQE status sensor, splice only the pair of RQE wires for the switch on the inside of the door, which you identified in Task 10 on page 6. Put the unused pair of RQE wires in the door.*

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

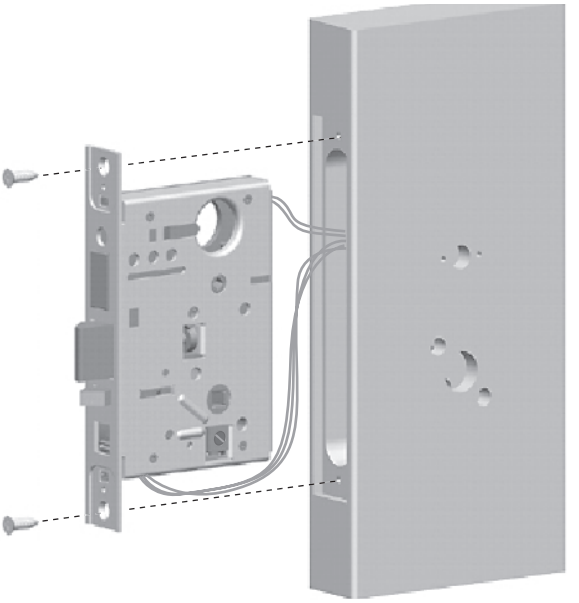


Figure 11 Installing the mortise case

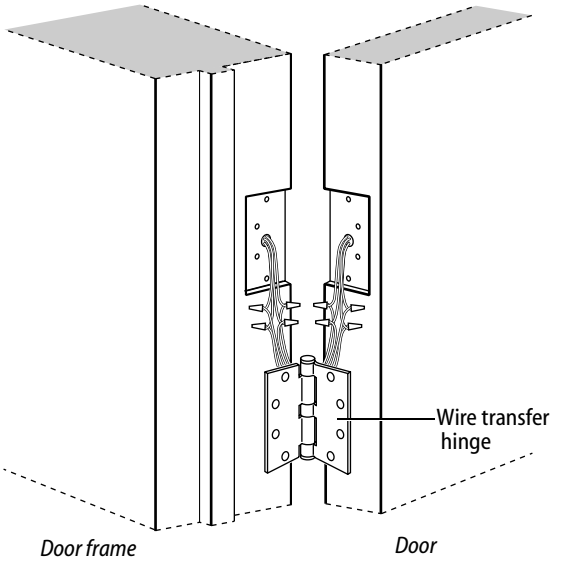


Figure 12 Installing the wire transfer hinge

BEST is a trademark of dormakaba USA Inc. ©2021 All rights reserved.

Installing the trim

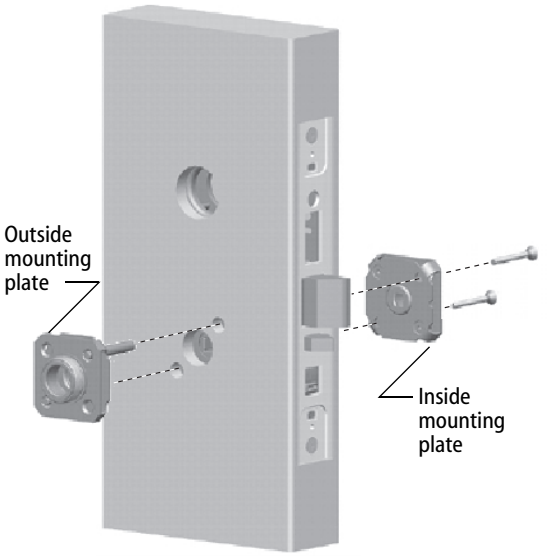


Figure 13 Installing the trim mounting plates

13 Install trim mounting plates

1 *For J trim*, position the J alignment plate (*Figure 15b*) on the outside of the door.

2 *For all trim*, insert the outside trim mounting plate through the door and mortise case.

3 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.**

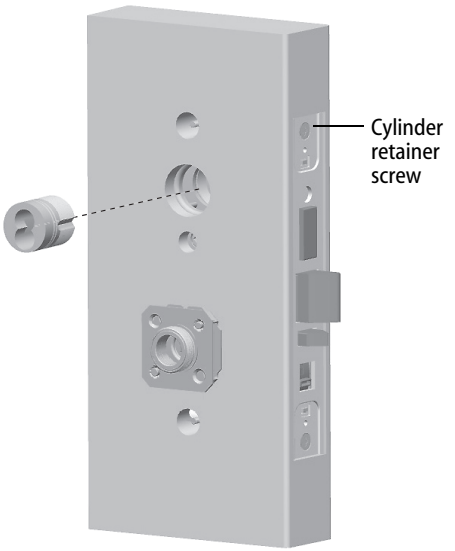


Figure 14 Installing the concealed cylinder

14 Install concealed cylinder *(N trim only)*

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.

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.

BEST is a trademark of dormakaba USA Inc. ©2021 All rights reserved.

Installing the trim

15 Install roses or escutcheons

For sectional trim (Figure 15a)

1 Position the inside rose on the door so it is centered on the trim mounting plate.
2 Use the spanner wrench to install the rose ring onto the inside mounting plate.
3 Position the outside rose on the door so it is centered on the trim mounting plate.
4 Use the spanner wrench to install the rose ring onto the outside mounting plate.

For J trim (Figure 15b)

1 Position the inside escutcheon on the door so it is centered on the trim mounting plate. Install the escutcheon screw.
2 Use the spanner wrench to install the trim ring onto the inside mounting plate.
3 Position the outside escutcheon on the door over the alignment plate.
4 Use the spanner wrench to install the trim ring onto the outside trim mounting plate.

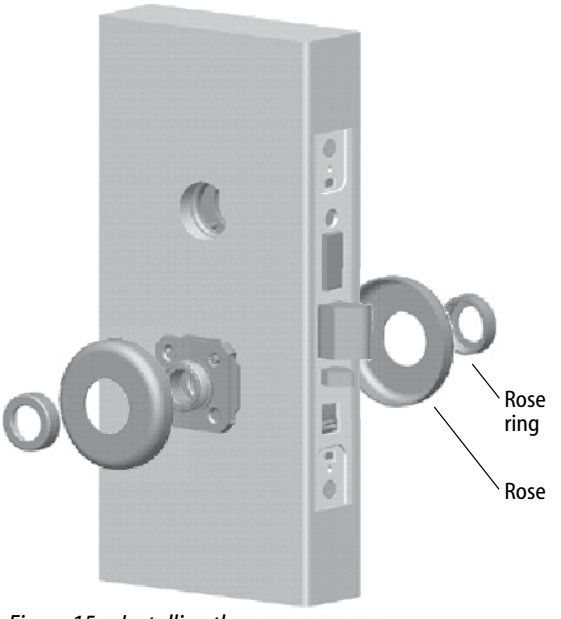


Figure 15a Installing the roses

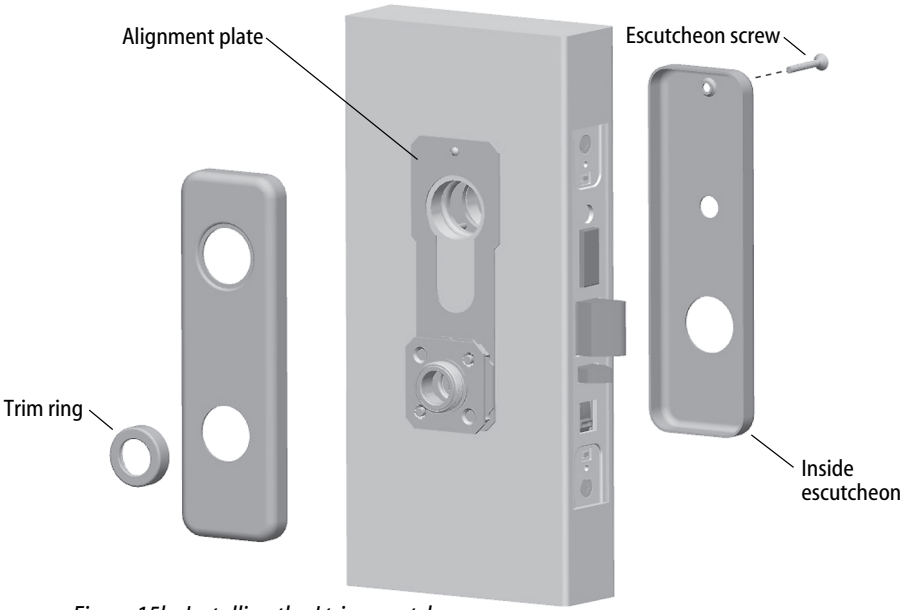


Figure 15b Installing the J trim escutcheons

BEST is a trademark of dormakaba USA Inc. ©2021 All rights reserved.

Installing the trim

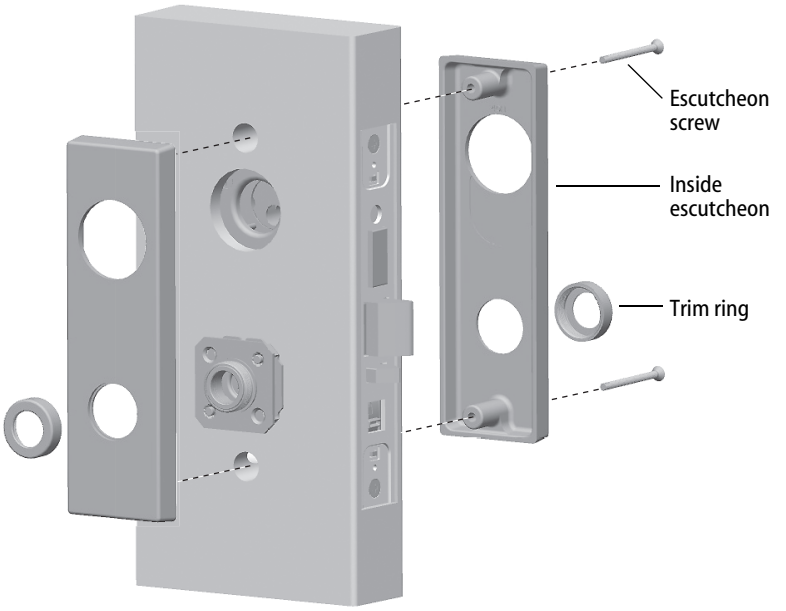


Figure 15c Installing the M trim escutcheons (47H M trim shown)

For M trim (Figure 15c) or N trim (Figure 15d)

1. Position the inside and outside escutcheons on the door so they are centered on the trim mounting plates.
2. Install the upper and lower escutcheon screws from the inside of the door.
3. Use the spanner wrench to install the trim rings onto the inside and outside trim mounting plates.

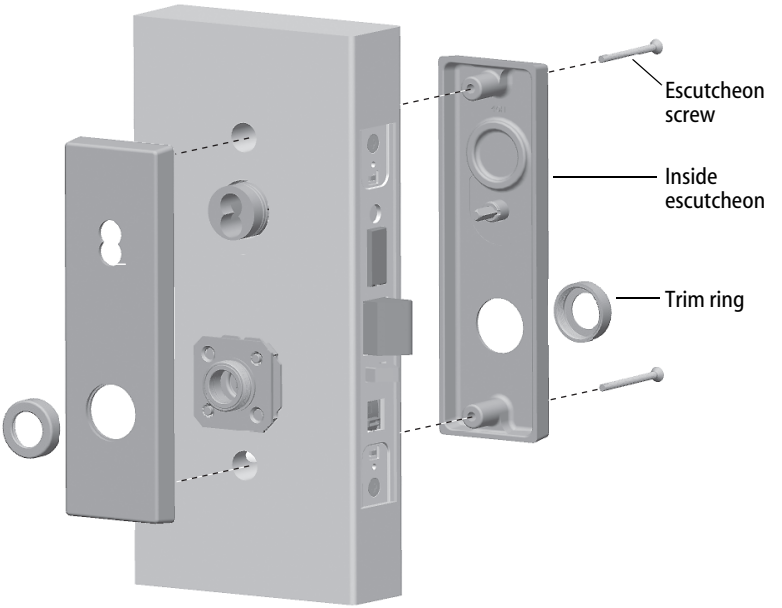


Figure 15d Installing the N trim escutcheons

BEST is a trademark of dormakaba USA Inc. ©2021 All rights reserved.

Installing the trim

16 Install thumb turn or emergency access plate *(if necessary)*

Note 1: *Install the thumb turn on the inside of the door for the following lock functions:*

- *TDEL*
- *TDEU*
- *LEL*
- *LEU*

Note 2: *Install the emergency access plate on the outside of the door for privacy function (LEL and LEU) locks.*

1 Orient the thumb turn so it points up when the deadbolt is retracted and towards the hinge edge of the door when the deadbolt is extended.

2 Install the thumb turn or emergency access plate using the two screws provided (*Figure 16*).

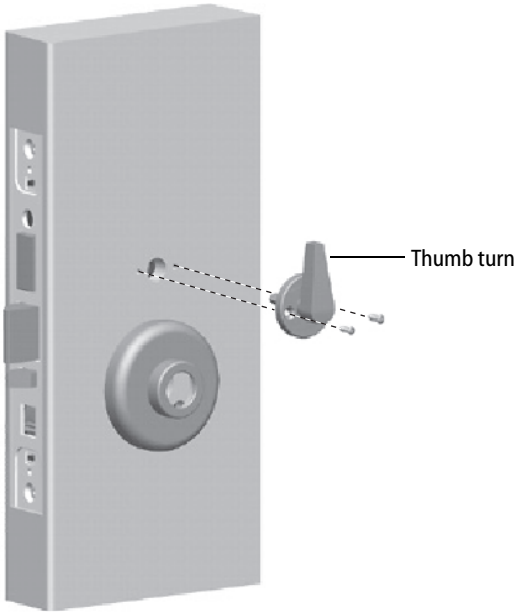


Figure 16 Installing the thumb turn or emergency access plate

BEST is a trademark of dormakaba USA Inc. ©2021 All rights reserved.

Installing the trim

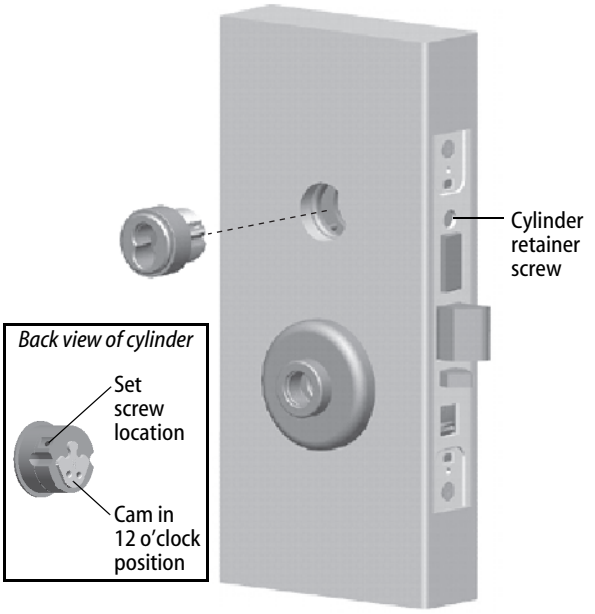


Figure 17a Installing the standard cylinder

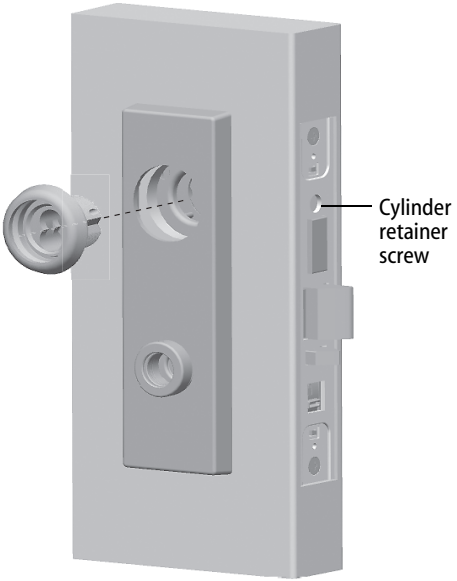


Figure 17b Installing the high-security cylinder

17 Install standard or high security cylinder *(if necessary)*

1 Using a narrow-blade screwdriver, insert the blade into the cylinder's figure-8 opening and back the set screw into the cylinder until the tip of the set screw is below the threads of the cylinder.

2 Make sure the washer (standard cylinder only) and cylinder ring are positioned on the cylinder.

3 Rotate the cylinder cam to the 12 o'clock position.

4 Use a cylinder wrench to thread the cylinder into the mortise case.

For a standard cylinder, rotate the cylinder until the cylinder ring is flush against the door.

For a high-security cylinder, rotate the cylinder until the cylinder head touches the inside rim of the cylinder ring.

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

5 Using a narrow-blade screwdriver, insert the blade into the figure-8 opening and tighten the small set screw (installed in the cylinder) into the lock case.

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

BEST is a trademark of dormakaba USA Inc. ©2021 All rights reserved.

Finishing the installation

18 Install inside and outside levers

For standard lever installation (Figure 18)

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

Note: *Remove the label from the inside spindle.*

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

Note: *The 17 style lever is handed. The lever should curve downward when installed on the door.*

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

4 Turn the levers to check that they operate smoothly.

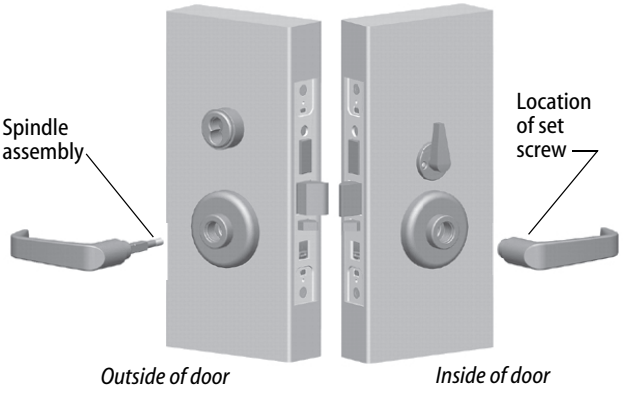


Figure 18 Installing the levers

19 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.

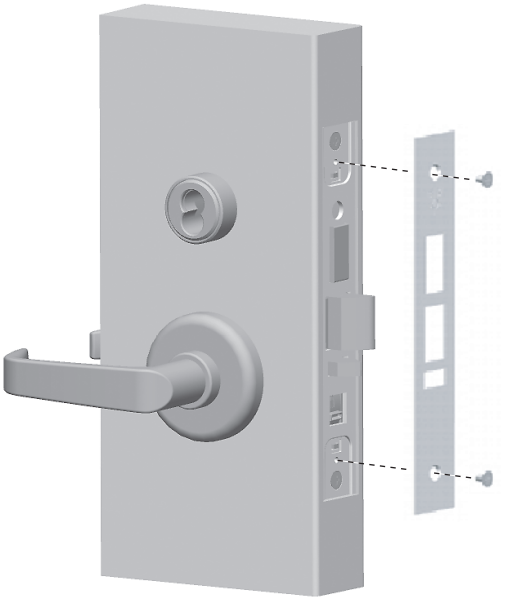


Figure 19 Installing the mortise case faceplate

BEST is a trademark of dormakaba USA Inc. ©2021 All rights reserved.

Finishing the installation

20 Install strike box and strike plate

1 *If the door jamb has not been mortised for the strike box and strike plate*, perform these steps:
   a On the door jamb, locate the horizontal centerline of the strike (3/8″ above the centerline of the lock), as well as the vertical centerline of the strike.
   b Mortise the door jamb to fit the strike box and strike plate.
   c Drill the holes for the screws used to install the strike box and strike plate.

2 *If using a strike box with a magnet (for the optional door status sensor),* orient the strike box so that the magnet is at the top of the strike box.

3 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.

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

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

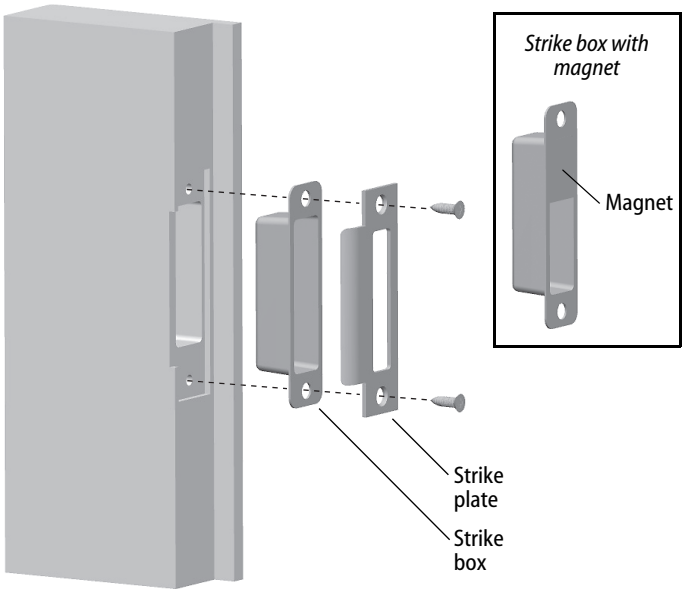


Figure 20 Installing the strike box and strike plate

BEST is a trademark of dormakaba USA Inc. ©2021 All rights reserved.

Finishing the installation

21 Install door status magnet *(optional for deadbolt function locks)*

1 On the door jamb, mark the drill point for the door status magnet hole.

Note: *This hole should be directly opposite the door status switch when the door is closed.*

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

3 Insert the magnet into the hole.

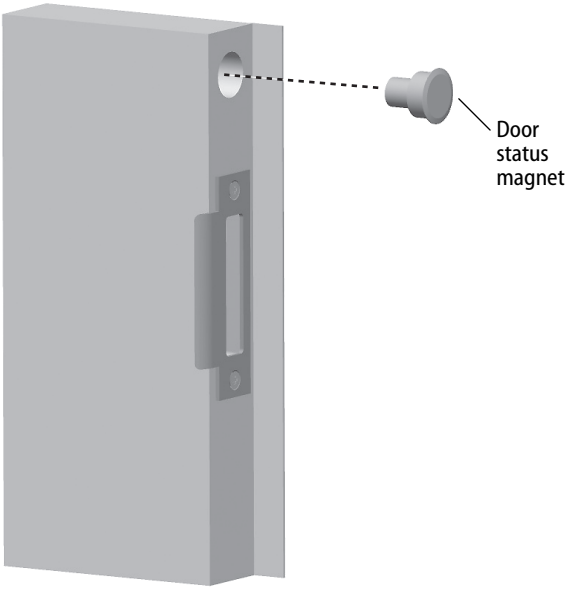


Figure 21 Installing the door status magnet

22 Install cores

1 *For a high-security cylinder*, slide the cylinder face down over the core.

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

3 With the control key in the core, insert the core and cylinder face (high-security cylinder only) into the cylinder.

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.**

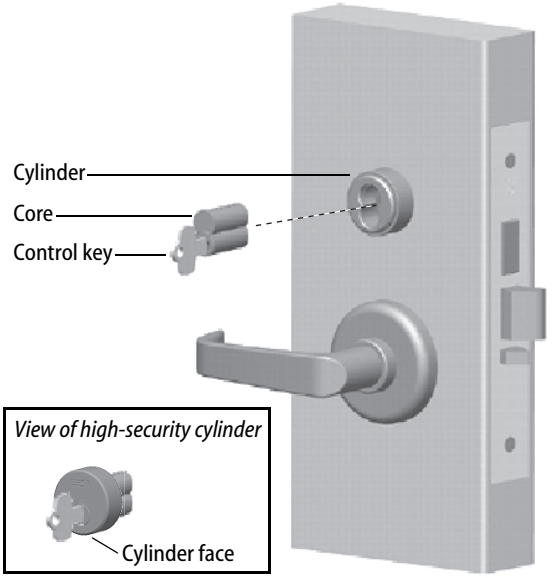


Figure 22 Installing the core(s)

BEST is a trademark of dormakaba USA Inc. ©2021 All rights reserved.

Finishing the installation

23 Install lock power supply

Determine the power supply requirements for the lock.

- For a lock with a 12 volt solenoid, use a regulated power supply rated for 12 volts DC at 1.1 amps.
- For a lock with a 24 volt solenoid, use a regulated power supply rated for 24 volts DC at 0.75 amps.
- To power more than one lock with the same power supply, sum the total volt-amps (power) for the circuit and then multiply that number by 1.5. This is the minimum power rating in volt-amps recommended for the power supply.

Example for two locks powered by one supply:

Both locks are rated at 12 volts, 1.1 amps
(12 volts × 1.1 amps) + (12 volts × 1.1 amps) = 26.4 volt-amps
26.4 volt-amps × 1.5 = 39.6 volt-amps
Choose a power supply with a rating of 39.6 volt-amps or higher.

24 Make sensor connections

Connect the field wiring for the lock sensors to the access control panel.

Refer to the table below and the manufacturer's instructions for the access control panel.

Wire connection	Color	No. of wires	Switch type
Deadbolt status sensor	Blue	2	NO†
Door status sensor	White	2	NO
Latchbolt status sensor	Violet	2	NC‡
RQE status sensor	Brown & Orange	2	NO

† Normally open
‡ Normally closed

25 Check operation

1 Supply power to the lock and check its operation. For example, check that:
   - door latches and opens properly
   - deadbolt operates properly
   - key access works
   - door gap is 1/8"
   - auxiliary bolt is held inside the case when the door is closed.
2 When installation of the access control system has been completed, apply power to the system and check that the door's sensors operate properly.

For assistance, contact your local BEST representative.

BEST is a trademark of dormakaba USA Inc. ©2021 All rights reserved.

Installation Instructions for 48H & 49H Mortise Locks

BEST dormakaba Group

Overview

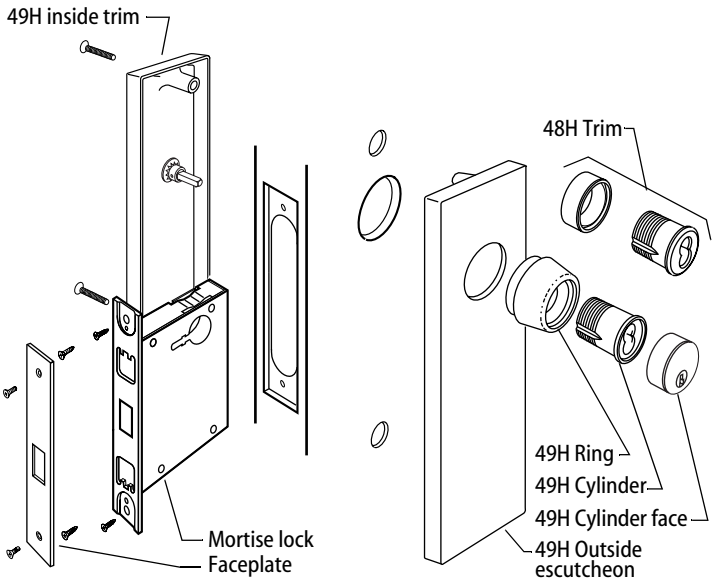


Figure 1 48H and 49H Mortise Lock overview diagram

1 Mark centerlines

Caution: **If you use hollow metal doors, decide whether the doors are reinforced enough to support the lock. If the door reinforcement is not adequate, consult the door manufacturer about proper reinforcement.**

Note: *Prepare the door according to ANSI A115.1 before using these instructions.*

1 Mark the horizontal centerline of the lock on both sides of the door and on the door's edge.

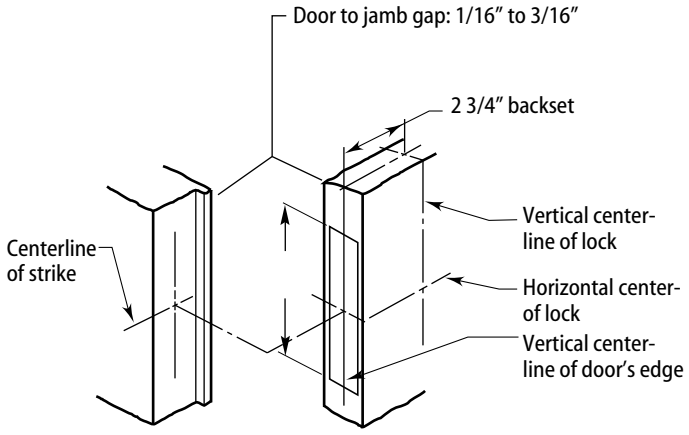


Figure 2 Marking the centerlines on the door

Note: *dormakaba suggests a 38" height as measured from floor to lock center-line.*

2 Mark the vertical centerline of the lock on the door edge.
3 Mark the vertical centerline of the lock on both sides of the door as measured from the vertical centerline on the door's edge.
4 Mark the horizontal centerline of the strike on the door jamb in line with the centerline of the lock.

2 Mark drill points

1 Cut the H18 template along the dotted line and align the horizontal and vertical arrows to the marked centerlines on the door.

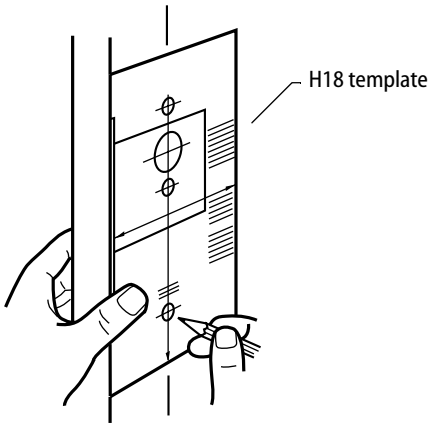


Figure 3 Marking the drill points with the template

2 Tape the template onto the door.

3 Install strike

1 Using the H18 template, mortise the jamb and install the strike and strike box. See *Installation Specifications,* Template H17 for dimensions.

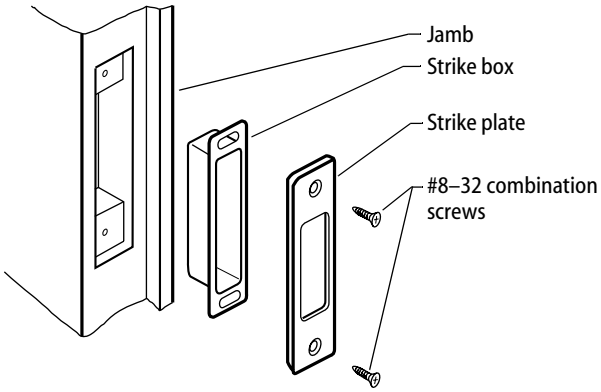


Figure 4 Installing the strike box and strike

BEST is a trademark of dormakaba USA Inc. ©2021 All rights reserved.

4 Mortise and drill holes

1 Mortise the door for the lock case and faceplate.

Note: *Check the lock for function before drilling.*

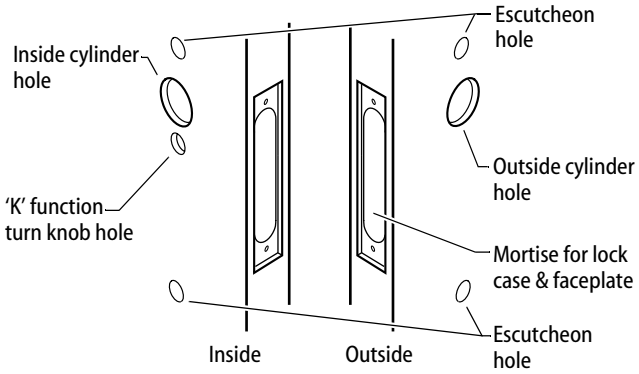


Figure 5 Mortising and drilling holes

2 Drill only those holes required for the lock function and trim. See Installation Specifications for hole requirements in Template H17.

5 Install mortise case

1 Remove the faceplate from the lock.

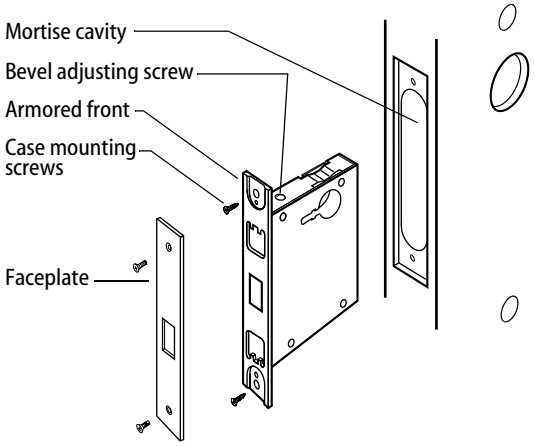


Figure 6 Installing the mortise case

2 Loosen the bevel adjusting screws on the top and bottom of the lock case and adjust the bevel of the armored front to match the door bevel. Retighten the screws.

For 'R' function only:

■ Check the cylinder and lock for proper operation.

Caution: **If the handing of the 'R' turn knob is incorrect, you can be locked in.**

3 Install the lock into the mortise cavity.
4 Secure the lock case with the case mounting screws.

6 Install trim

To install 48H trim:

1 Install cylinder(s) and ring(s) and fasten with cylinder clamp screw(s).
2 Install thumb turn if needed.
3 Reinstall the faceplate.

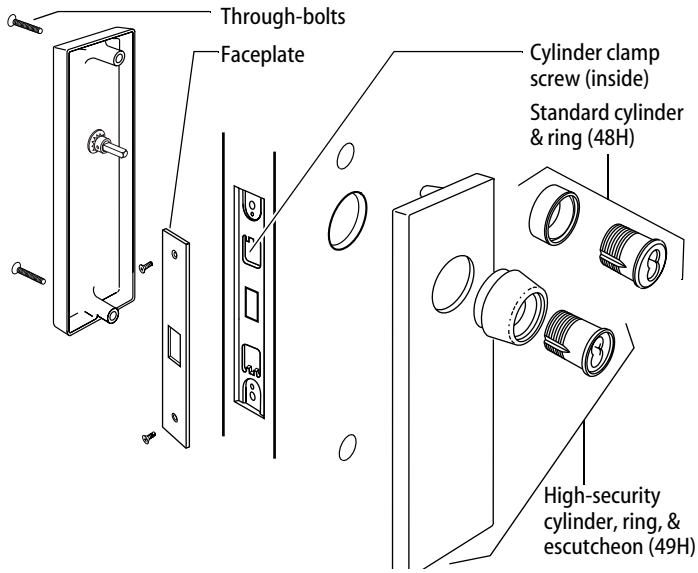


Figure 7 Installing 48H or 49H trim

4 Check the lock for proper operation.

To install 49H trim:

1 Position inside and outside escutcheons opposite each other and screw them loosely in place.
2 Put the high security cylinder(s) and ring(s) into the cylinder hole(s). Thread the cylinder(s) into the case until the cylinder head touches the inside rim of the ring.
3 Secure the cylinder(s) with the cylinder clamp screw(s).
4 Tighten the through-bolts.
5 Reinstall the faceplate.

7 Install core

For 5C cores only:

■ Slide the cylinder face down over the 5C core.

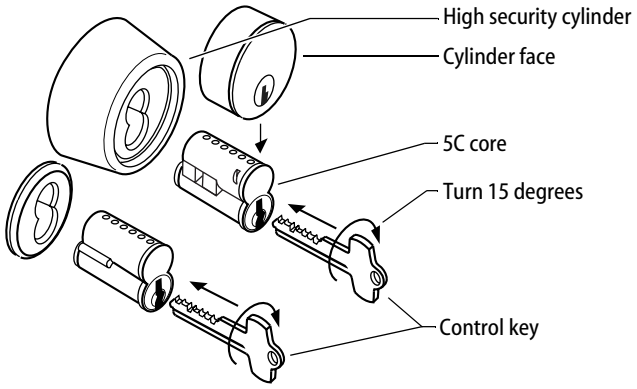


Figure 8 Installing the core

For all cores:

1 Put the control key into the core (or cylinder face) and turn the key 15 degrees clockwise.
2 Adjust the throw pins if needed, then put the core (and cylinder face) into the cylinder with the control key.
3 Turn the key 15 degrees counterclockwise and remove the key.
Note: *Follow these steps to remove the core also.*

BEST is a trademark of dormakaba USA Inc. ©2021 All rights reserved.

C

INDEX

Numerics

12 V solenoid
    part drawings for 45HW & 47HW Locks 4–38
1DT function
    function description 3–12
2DT function
    function description 3–12

A

A function
    case diagram 4–2
    case parts list 4–3
    function description 3–5
AB function
    case diagram 4–14
    case parts list 4–15
    function description 3–5
accessories for electrified locks 5–31
AD function
    case diagram 4–34
    case parts list 4–35
    function description 3–10
ANSI function designations 3–2 to 3–3
AT function
    case diagram 4–4
    case parts list 4–5
    function description 3–5
auxiliary bolt
    part drawings for 45H & 47H Locks 4–2
    part numbers for 45H & 47H Locks 4–3

B

B function
    case diagram 4–16
    case parts list 4–17
    function description 3–5
B5 function
    case diagram 4–22
    case parts list 4–23
    function description 3–13
B7 function
    case diagram 4–22
    case parts list 4–23
    function description 3–13
BA function
    case diagram 4–18
    case parts list 4–19
    function description 3–6
BW function
    case diagram 4–20
    case parts list 4–21
    function description 3–6

C

C function
    case diagram 4–4
    case parts list 4–5
    function description 3–8
case and strike dimensions
    45H & 47H Locks 1–3
    45HW & 47HW Locks 1–5
    48H & 49H Locks 1–7

case cover
part drawings for 45H & 47H Locks 4–2
part drawings for 48H & 49H Locks 7–3
part numbers for 45H & 47H Locks 4–3
part numbers for 48H & 49H Locks 7–3
case cover mounting screw
part drawings for 45H & 47H Locks 4–2
part numbers for 45H & 47H Locks 4–3
case mounting screw
part drawings for 48H & 49H Locks 7–3
part numbers for 48H & 49H Locks 7–3
case only locks
components 4–64
how to order 4–62
case sub-assembly
part drawings for 45H & 47H Locks 4–2
part drawings for 48H & 49H Locks 7–3
part numbers for 45H & 47H Locks 4–3
part numbers for 48H & 49H Locks 7–3
certifications and standards 1–1
changing handing for 45H & 47H cases 6–2
changing the function for
UNAB cases 6–6
UNR cases 6–5
UNT cases 6–6
CHB function
case diagram 4–12
case parts list 4–13
function description 3–8
cylinder retainer
part drawings for 45H & 47H Locks 4–2
part numbers for 45H & 47H Locks 4–3
cylinder retainer assembly
part drawings for 45H & 47H Locks 4–2
part numbers for 45H & 47H Locks 4–3
cylinders and cams
how to order 5–20
part numbers for 45H & 47H Locks 5–21
cylinders rings
part numbers for 45H & 47H Locks 5–21

D

D function
case diagram 4–4
case parts list 4–5
function description 3–6
deadbolt
part drawings for 48H & 49H Locks 7–3
part numbers for 48H & 49H Locks 7–3
deadbolt sub-assembly
part drawings for 45H & 47H Locks 4–26
part numbers for 45H & 47H Locks 4–27
deadlocking lever
part drawings for 45H & 47H Locks 4–2
part numbers for 45H & 47H Locks 4–3
deadlocking lever pin
part drawings for 45H & 47H Locks 4–2
part numbers for 45H & 47H Locks 4–3
deadlocking lever spring
part drawings for 45H & 47H Locks 4–2
part numbers for 45H & 47H Locks 4–3
DEL function
case diagram 4–38
case parts list 4–39
function description 3–14
DEU function
case diagram 4–40
case parts list 4–41
function description 3–14
documentation package 1–8
door position clip
part drawings for 45HW & 47HW Locks 4–38
door status switch
part drawings for 45HW & 47HW Locks 4–38
double cylinder clamp plate
part drawings for 48H & 49H Locks 7–3
part numbers for 48H & 49H Locks 7–3
driver bits 5–30
dummy trim
part drawings for 45H & 47H Locks 5–27
part numbers for 45H & 47H Locks 5–27

E

electrified hub (LH)
part drawings for 45HW & 47HW Locks 4–38
electrified hub (RH)
part drawings for 45HW & 47HW Locks 4–38
electronic locking toggle assembly
part drawings for 45HW & 47HW Locks 4–38

F

F locking lever sub-assembly
part drawings for 45H & 47H Locks 4–12, 4–14
part numbers for 45H & 47H Locks 4–15
faceplate
part drawings for 48H & 49H Locks 7–3
part numbers for 48H & 49H Locks 7–3
faceplate kits
components 5–15 how to order 5–15 faceplate screw
part drawings for 48H & 49H Locks 7–3
part numbers for 48H & 49H Locks 7–3
function
changing for UNAB cases 6–6
changing for UNR cases 6–5
changing for UNT cases 6–6
function descriptions for 45H & 47H Locks
deadlocked functions 3–10
double-keyed functions 3–8
non-keyed functions 3–11
single-keyed functions 3–5
special functions 3–13
understanding function drawings 3–4

function descriptions for 45HW & 47HW Locks
electrified functions 3–14
function descriptions for 48H & 49H Locks 7–2
function-specific locks 2–1
fusible link molded assembly
part drawings for 45H & 47H Locks 4–2
part numbers for 45H & 47H Locks 4–3

G

G function
case diagram 4–22
case parts list 4–23
function description 3–8

H

H function
case diagram 4–24
case parts list 4–25
function description 3–6
handing, changing for 45H & 47H cases 6–2
HJ function
case diagram 4–24
case parts list 4–25
function description 3–6
holdback case sub-assembly
part drawings for 45H & 47H Locks 4–12
part number for 45H & 47H Locks 4–13
holdback cover
part drawing for 45H & 47H Locks 4–12
part number for 45H & 47H Locks 4–13
holdback hub
part number for 45H & 47H Locks 4–13
holdback hub-assembly
part drawings for 45H & 47H Locks 4–12
hub
part drawings for 45H & 47H Locks 4–2
part numbers for 45H & 47H Locks 4–3

I

IND function
case diagram 4–26
case parts list 4–27
function description 3–8
INL function
case diagram 4–4
case parts list 4–5
function description 3–9
inside trim kits
components 5–7
how to order 5–6

J

J trim inside escutcheons 5–24 J trim outside escutcheons 5–23

K

K deadlock function
case diagram 7–3
case parts list 7–3
function description 7–2
key release lever
part drawings for 45H & 47H Locks 4–2
part numbers for 45H & 47H Locks 4–3
key release shuttle assembly
part drawings for 45H & 47H Locks 4–2
part numbers for 45H & 47H Locks 4–3
kits, advantages of 2–2

L

L deadlock function
case diagram 7–3
case parts list 7–3
function description 7–2
L function
case diagram 4–28
case parts list 4–29
function description 3–11
latchbolt sensor switch assembly
part drawings for 45HW & 47HW Locks 4–38
latchbolt sub-assembly
part drawings for 45H & 47H Locks 4–2
part numbers for 45H & 47H Locks 4–3
LB function
case diagram 4–30
case parts list 4–31
function description 3–11
LEL function
case diagram 4–58
case parts list 4–59
function description 3–14
LEU function
case diagram 4–60
case parts list 4–61
function description 3–14
lever sets
components 5–13
how to order 5–12
locking lever and toggle assembly
part drawings for 45H & 47H Locks 4–2
part numbers for 45H & 47H Locks 4–3
LT function
case diagram 4–6
case parts list 4–7
function description 3–11

M

M & N trim inside escutcheons 5–26
M & N trim outside escutcheons 5–25
M deadlock function
case diagram 7–3
case parts list 7–3
function description 7–2
modified key release lever
part drawings for 45H & 47H Locks 4–34
part numbers for 45H & 47H Locks 4–35

N

N function
case diagram 4–8
case parts list 4–9
function description 3–11
NX function
case diagram 4–10
case parts list 4–11
function description 3–11
NXEL function
case diagram 4–46
case parts list 4–47
function description 3–15

NXEU function
case diagram 4–48
case parts list 4–49
function description 3–15

O

outside trim kits
components 5–3
how to order 5–2
overview
45H & 47H Locks 1–2
45HW & 47HW Locks 1–4
48H & 49H Locks 1–6

R

R deadlock function
case diagram 7–4
case parts list 7–4
function description 7–2
R function
case diagram 4–4
case parts list 4–5
function description 3–6
RD function
case diagram 4–36
case parts list 4–37
function description 3–10
release lever spring
part drawings for 45H & 47H Locks 4–2
part numbers for 45H & 47H Locks 4–3
release lever sub-assembly
part drawings for 45H & 47H Locks 4–2
part numbers for 45H & 47H Locks 4–3
replacement spindles
components 5–17
how to order 5–16
RHB function
case diagram 4–12
case parts list 4–13
function description 3–7
roses and rose rings
part drawings for 45H & 47H Locks 5–27
part numbers for 45H & 47H Locks 5–27
RQE and latch status switch assembly
part drawings for 45HW & 47HW Locks 4–38
RQE switch assembly (case side)
part drawings for 45HW & 47HW Locks 4–38
RQE switch assembly (cover side)
part drawings for 45HW & 47HW Locks 4–38

S

S function
case diagram 4–18
case parts list 4–19
function description 3–9
screw kits
components 5–19
how to order 5–18
self tapping screw
part drawings for 45H & 47H Locks 4–20
part numbers for 45H & 47H Locks 4–21
service equipment 5–29, 5–31
spacer for 38/39H
part drawings for 4–34
part numbers for 4–35
spindles
See replacement spindles
strain relief
part drawings for 45HW & 47HW Locks 4–38
strike packages
components 5–11
how to order 5–10
strikes and strike boxes for 48H & 49H Locks 7–7
support, technical 1–8

T

T function
case diagram 4–26
case parts list 4–27
function description 3–7
TA function
case diagram 4–32
case parts list 4–33
function description 3–7
TD function
case diagram 4–24
case parts list 4–25
function description 3–7
TDEL function
case diagram 4–50
case parts list 4–51
function description 3–15
TDEU function
case diagram 4–52
case parts list 4–53
function description 3–15
technical documentation package 1–8
technical support 1–8
three-part locks 2–2
toggle lever
part drawings for 45H & 47H Locks 4–2
part numbers for 45H & 47H Locks 4–3
toggle lever spring
part drawings for 45H & 47H Locks 4–2
part numbers for 45H & 47H Locks 4–3
toggle roller
part drawings for 45H & 47H Locks 4–2
part numbers for 45H & 47H Locks 4–3
tools 5–29, 5–31
trim kits
See outside trim kits and inside trim kits
trim kits, working with 2–4
trim one side locks 2–6
trim parts for 48H Locks 7–5
trim parts for 49H high security deadbolt locks 7–6
troubleshooting
45H & 47H Locks 6–7
48H & 49H Locks 7–8
turn knob hub
part drawings for 45H & 47H Locks 4–2, 4–4, 4–26, 4–36
part drawings for 48H & 49H Locks 7–3 to 7–4
part number for 45H & 47H Locks 4–13
part numbers for 45H & 47H Locks 4–3, 4–5, 4–27, 4–37
part numbers for 48H & 49H Locks 7–3 to 7–4
turn knob hub cam
part drawings for 45H & 47H Locks 4–26
part numbers for 45H & 47H Locks 4–27

turn knob hub spacer
part drawings for 45H & 47H Locks 4–2
part drawings for 48H & 49H Locks 7–3
part numbers for 45H & 47H Locks 4–3
part numbers for 48H & 49H Locks 7–3
TWEL function
case diagram 4–54
case parts list 4–55
function description 3–16
TWEU function
case diagram 4–56
case parts list 4–57
function description 3–16

U

universal functions, working with 2–2
universal locks 2–2

V

visual indicator trim
part drawings for 45H & 47H Locks 5–28
part numbers for 45H & 47H Locks 5–28

W

W function
case diagram 4–4
case parts list 4–5
function description 3–9
ways to order 40H Locks 2–1
WD function
case diagram 4–34
case parts list 4–35
function description 3–10
WEL function
case diagram 4–42
case parts list 4–43
function description 3–16
WEU function
case diagram 4–44
case parts list 4–45
function description 3–16
wire strain relief
part drawings for 45HW & 47HW Locks 4–38

X

XR function
case diagram 4–4
case parts list 4–5
function description 3–13

Y

YD function
case diagram 4–34
case parts list 4–35
function description 3–10

Z

ZD function
case diagram 4–4
case parts list 4–5
function description 3–13

BEST is a trademark of dormakaba USA Inc. ©2021 All rights reserved.