

SERVICE MANUAL

8K SERIES

SERVICE MANUAL

BEST ACCESS SYSTEMS

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1 GETTING STARTED

INTRODUCTION

The *8K Series Service Manual* contains essential information to help you maintain your 8K Series Lock. This manual addresses standard and electrified 8K Series Locks. Throughout this manual, the term electrified is used to refer to 83KW–93KW DEL, DEU function locks.

CERTIFICATIONS AND STANDARDS

8K Series Locks

- The locks comply with ANSI A156.2, Series 4000 Grade 1 standards.
- The locks are listed by Underwriter's Laboratories for use on 3 Hr., A label single swinging doors.
- The chassis conforms to ANSI A115.2.
- The 8KS3 strike fits the standard door frame cutout as specified in ANSI A115.2.

Electrified Locks

- The 8KW Locks are UL listed for GYQS electrically controlled single point locks or latches.
- The 8KW Locks are approved by the California State Fire Marshal (CSFM) pursuant to section 13144.1 of the California Health and Safety Code.
- The 8KW Locks are approved by the city of New York Board of Standards and Appeals under calendar number 730-89-SA. See CSFM listing number 4136-1175:103.

Accessories

- The 8W599 transformer is UL listed.
- The 8WCON AC to DC converter full wave bridge rectifier is UL recognized.

DOCUMENTATION PACKAGE

The following documentation is available to help you with the installation, start-up, and maintenance of your 8K Series Lock.

The installation and assembly instructions also can be ordered separately:

Document Title	Doc. No.
Installation Instructions for 8K Cylindrical Locks†	*T56066*
8K "C, R, S, & T" Function Cam Positioning Instructions	*T56068*
8K H & HJ Function Key Instructions	*T56070*
8K "G" Function Cam Positioning Instructions	*T56071*
Wiring Instructions for 8K and 9K Series Electrified Cylindrical Locks with RQE†	*T56090*
Door Wiring Instructions for Electrically-Operated Locks	*T61926*
Installation Instructions for 8K Dummy Trim	*T81157*

† These installation instructions are included in this manual (see *Installation Instructions* on page A-1.

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

Document Title	Doc. No.
K08 Template for Door and Frame Preparation for 63K, 73KC, 83K, 93K Cylindrical Locks with Small (STK) Strike	*T56052*
K09 Template for Door and Frame Preparation for 63K, 73KC, 83K, 93K Cylindrical Locks with Large (S3) Strike	*T56053*
K10 Template for Door and Frame Preparation for 64K, 84K, 94K Cylindrical Locks with Small (STK) Strike	*T56054*
K11 Template for Door and Frame Preparation for 64K, 84K, 94K Cylindrical Locks with Large (S3) Strike	*T56055*
K12 Template for Door Frame Preparation for 65K, 85K, 95K Cylindrical Locks with Small (STK) Strike	*T56056*
K13 Template for Door Frame Preparation for 65K, 85K, 95K Cylindrical Locks with Large (S3) Strike	*T56057*

Document Title	Doc. No.
K18 Template for Installation of 8K/9K Dummy Trim	*T56059*
K21 Template for Strike Specification for 6K, 8K, 9K Cylindrical Locks	*T56060*
Template for 3 3/4" & 5" Backset 6K, 8K, 9K Cylindrical Locks with RQE	*T56077*
Template for 2 3/4" Backset 6K, 7KC, 8K, 9K Cylindrical Locks with RQE	*T56091*
W14 Template; Installation Specifications for 83KW/93KW–85KW/95KW IDH Max Cylindrical Locks	*T60777*
W16 Template; Installation Template for 83KW/93KW–85KW/95KW IDH Max Cylindrical Locks	*T60773*
Template for 8K Dummy Trim	*T81158*

TECHNICAL SUPPORT

Support services

When you have a problem with the 8K Series Lock, your first resource for help is the *8K Series Service Manual*. If you cannot find a satisfactory answer, contact your local BEST 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 that the product is in your immediate vicinity, and that you are prepared to give the following information:

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

Best Access Systems Representatives provide telephone technical support for all 8K Series products. You may locate the representative nearest you by calling (317) 849-2250 Monday through Friday, between 7:00 a.m. and 4:00 p.m. eastern standard time; or visit the web site, www.BestAccess.com.

2 FUNCTIONS AND PARTS LISTS

The following pages contain function descriptions for all 8K Series Locks. This chapter also includes exploded diagrams that show all field serviceable mechanical parts, diagrams of trim and other miscellaneous parts, and function conversion information.

FUNCTION DESCRIPTIONS

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

- single-keyed (page 2–3)
- double-keyed (page 2–5)
- non-keyed (page 2–6)
- special (page 2–7)
- electrified (page 2–10).

For a list of the BEST designation for each ANSI-defined function, see page 2–10.

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

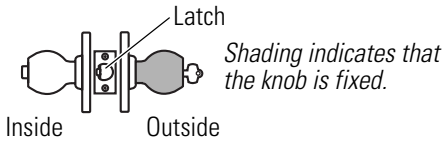
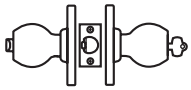


Figure 2.1 Understanding function drawings

Single-keyed functions

The following lists describe how the latchbolt, outside knob, and inside knob operate for each single-keyed 8K function.

AB–Entrance (ANSI F109)



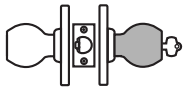
Latchbolt operated by:
- inside knob
- outside key
- outside knob when the inside button is in the unlocked position

Outside knob locked by:
- inside button when pushed in
- inside button when pushed in and rotated clockwise

Outside knob unlocked by:
- inside knob when the inside button is pushed in but not rotated
- outside key when the inside button is pushed in but not rotated
- closing the door when the inside button is pushed in but not rotated

Inside knob is always unlocked

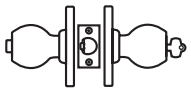
D–Storeroom (ANSI F86)



Latchbolt operated by:
- inside knob
- outside key

Outside knob is always fixed
Inside knob is always unlocked

E–Service station (ANSI F92)



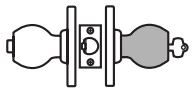
Latchbolt operated by:
- inside knob
- outside key
- outside knob when the inside button is in the unlocked position

Outside knob locked by:
- inside slotted button
- inside slotted button when pushed in and rotated clockwise

Outside knob unlocked by:
- inside knob
- inside slotted button when rotated counterclockwise
- outside key
- closing the door when the inside button is pushed in but not rotated

Inside knob is always unlocked

H and HJ–Hotel guest room (ANSI F93 for H only)



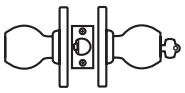
Latchbolt operated by:
- inside knob
- outside key when the inside button is in the unlocked position
- special emergency key after the core is removed with the control key

Outside knob is always fixed
Key block feature released by:
- inside knob
- closing the door

Inside knob is always unlocked

Note: For the H function, pushing the inside button projects an "Occupied" indicator in the outside knob and blocks all operating keys. For the HJ function, pushing the inside button blocks all operating keys.

R–Classroom (ANSI F84)



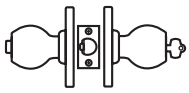
Latchbolt operated by:
- inside knob
- outside key
- outside knob when not locked

Outside knob locked by:
- outside key

Outside knob unlocked by:
- outside key

Inside knob is always unlocked

T–Dormitory (ANSI F90)



Latchbolt operated by:
- inside knob
- outside knob when not locked

Outside knob locked by:
- inside button
- outside key

Outside knob unlocked by:
- inside knob when the inside button is pushed in
- outside key
- closing the door when the inside button is pushed in

Inside knob is always unlocked

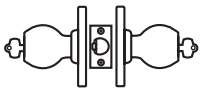
Double-keyed functions

The following lists describe how the latchbolt, outside knob, and inside knob operate for each double-keyed 8K 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–Apartment (ANSI F88)



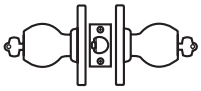
Latchbolt operated by:
- inside knob
- outside key
- outside knob when not locked

Outside knob locked by:
- inside key

Outside knob unlocked by:
- inside key

Inside knob is always unlocked

S–Communicating (ANSI F80)



Latchbolt operated by:
- inside key
- inside knob when not locked
- outside key
- outside knob when not locked

Outside knob locked by:
- outside key

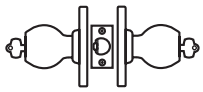
Outside knob unlocked by:
- outside key

Inside knob locked by:
- inside key

Inside knob unlocked by:
- inside key

Note: Turning the key in either knob locks or unlocks that knob independently.

G–Storeroom (ANSI F91)



Latchbolt operated by:
- inside knob when not locked
- outside knob when not locked

Outside knob locked by:
- inside key
- outside key

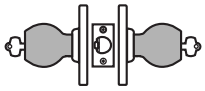
Outside knob unlocked by:
- inside key
- outside key

Inside knob locked by:
- inside key
- outside key

Inside knob unlocked by:
- inside key
- outside key

Note: Turning the key in either the inside or outside knob locks or unlocks both sides.

W–Institutional (ANSI F87)



Latchbolt operated by:
- inside key
- outside key

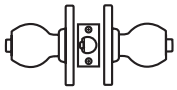
Outside knob is always fixed

Inside knob is always fixed

Non-keyed functions

The following lists describe how the latchbolt, outside knob, and inside knob operate for each non-keyed 8K function.

L–Privacy (ANSI F76)



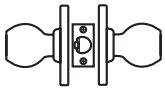
Latchbolt operated by:
- inside knob
- outside knob when the inside button is in the unlocked position

Outside knob locked by:
- inside button

Outside knob unlocked by:
- inside knob
- outside slotted button when pushed in and rotated counterclockwise
- closing the door

Inside knob is always unlocked

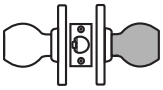
N–Passage (ANSI F75)



Latchbolt operated by:
- inside knob
- outside knob

Outside knob is always unlocked
Inside knob is always unlocked

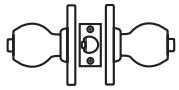
NX–Exit (ANSI F89)



Latchbolt operated by:
- inside knob

Outside knob is always fixed
Inside knob is always unlocked

P–Patio (ANSI F77)



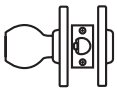
Latchbolt operated by:
- inside knob
- outside knob when the inside button is in the unlocked position

Outside knob locked by:
- inside button

Outside knob unlocked by:
- inside knob
- closing the door

Inside knob is always unlocked

Y–Exit



Latchbolt operated by:
- inside knob

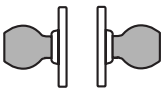
Inside knob is always unlocked

1DT–Single dummy trim



This assembly is a single, surface mounted knob for an inactive door or a non-latching door. Single dummy trim can be installed on the inside or outside of the door.

2DT–Double dummy trim



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

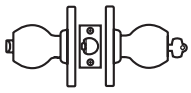
Special applications

The following lists describe how the latchbolt, outside knob, and inside knob operate for each special 8K 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.

A–Dormitory or storeroom lock (ANSI F81)



Latchbolt operated by:
- inside knob
- outside key
- outside knob when the inside button is in the unlocked position

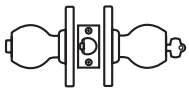
Outside knob locked by:
- inside button

Outside knob unlocked by:
- inside button

Inside knob is always unlocked

Note: Inside button must be rotated counterclockwise to unlock the outside knob.

B–Office (ANSI F82)



Latchbolt operated by:
- inside knob
- outside key
- outside knob when the inside button is in the unlocked position

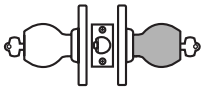
Outside knob locked by:
- inside button

Outside knob unlocked by:
- inside knob
- outside key

Inside knob is always unlocked

Note: Inside button is released by turning the key in the outside knob or rotating the inside knob. Closing the door does not release the inside button.

DR–Special



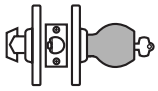
Latchbolt operated by:
- inside key
- inside knob when not locked
- outside key

Outside knob is always fixed

Inside knob locked by:
- inside key

Inside knob unlocked by:
- inside key

DZ–Closet or storeroom

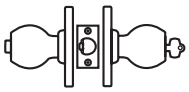


Latchbolt operated by:
- inside turn knob
- outside key

Outside knob is always fixed

Inside turn knob is always unlocked

EA–Entrance or Office



Latchbolt operated by:
- inside knob
- outside key
- outside knob when the inside button is in the unlocked position

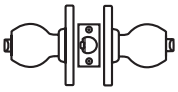
Outside knob locked by:
- inside button
- inside button when pushed in and rotated clockwise

Outside knob unlocked by:
- inside knob
- inside button when rotated counterclockwise
- outside key

Inside knob is always unlocked

Note: Turning the slotted button keeps the outside knob locked until the button is turned back.

⚠ M–Communicating (ANSI F78)



Latchbolt operated by:
- inside knob when not locked
- outside knob when not locked

Outside knob locked by:
- inside button

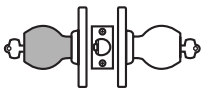
Outside knob unlocked by:
- inside button

Inside knob locked by:
- outside button

Inside knob unlocked by:
- outside button

Note: Do not use this function for rooms that have no other entrance.

⚠ RD–Special



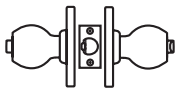
Latchbolt operated by:
- inside key
- outside key
- outside knob when not locked

Outside knob locked by:
- outside key

Outside knob unlocked by:
- outside key

Inside knob is always fixed

LL–Hospital privacy



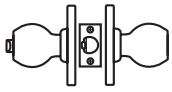
Latchbolt operated by:
- inside knob
- outside knob when not locked

Outside knob locked by:
- inside button when pushed in

Outside knob unlocked by:
- inside knob
- outside button when pushed in and rotated counterclockwise
- closing the door

Inside knob is always unlocked

Q–Exit (ANSI F83)



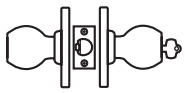
Latchbolt operated by:
- inside knob
- outside knob when not locked

Outside knob locked by:
- inside button

Outside knob unlocked by:
- inside button

Inside knob is always unlocked

RH-Special



Latchbolt operated by:
- inside knob when latchbolt not locked in retracted position
- outside knob when not locked

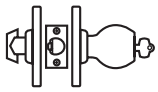
Latchbolt held retracted by:
- locking outside knob when latchbolt in retracted position

Outside knob locked by:
- outside key

Outside knob unlocked by:
- outside key

Inside knob is always unlocked

RZ–Closet or storeroom



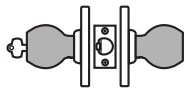
Latchbolt operated by:
- inside turn knob
- outside key
- outside knob when not locked

Outside knob locked by:
- outside key

Outside knob unlocked by:
- outside key

Inside turn knob is always unlocked

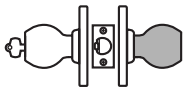
XD–Special



Latchbolt operated by:
- inside key

Outside knob is always fixed
Inside knob is always fixed

XR–Special

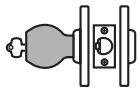


Latchbolt operated by:
- inside key
- inside knob when not locked

Outside knob is always fixed
Inside knob locked by:
- inside key

Inside knob unlocked by:
- inside key

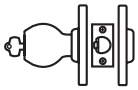
YD–Exit



Latchbolt operated by:
- inside key

Inside knob is always fixed

YR–Special

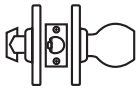


Latchbolt operated by:
- inside key
- inside knob when not locked

Inside knob locked by:
- inside key

Inside knob unlocked by:
- inside key

Z–Closet latch



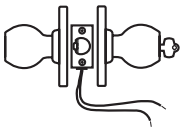
Latchbolt operated by:
- inside turn knob
- outside knob

Outsideknobisalwaysunlocked
Inside turn blade is always unlocked

Electrified functions

The following lists describe how the latchbolt, outside knob, and inside knob operate for each 8K electrified function.

DEL–Electrically Locked–Fail Safe



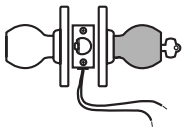
Latchbolt operated by:
- inside knob
- outside knob when electric power is removed from the solenoid
- outside key

Outside knob locked by:
- applying 24 VDC to the solenoid; remains locked only while power continues to be applied

Outside knob unlocked by:
- removing 24 VDC from the solenoid

Inside knob is always unlocked

DEU–Electrically Unlocked–Fail Secure



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

Outside knob locked by:
- removing 24 VDC from the solenoid

Outside knob unlocked by:
- applying 24 VDC to the solenoid; remains unlocked only while power continues to be applied

Inside knob is always unlocked

Functions by ANSI designation

ANSI no.	Function
F75	N
F76	L
F77	P
F78	M
F80	S
F81	A
F82	B
F83	Q
F84	R
F86	D
F87	W
F88	C
F89	NX
F90	T
F91	G
F92	E
F93	H
F109	AB

STANDARD FUNCTIONS
AB FUNCTION CHASSIS—ENTRANCE LOCK (ANSI F109)

Item	Part No.	Qty.	Description
1	B54742	1	Turn button assembly†
2	B54810	1	Inside hub and plate assembly
3	B54187	2	Clamp stud
4	B54806	1	Non-keyed knob sleeve assembly
5	B54172	1	Chassis cover
6	B54822	1	Retractor assembly with long catchplate
7	A54860	1	Key release cam assembly
8	A54807	1	Keyed sleeve assembly
9	B54185	1	Standard knob driver *or*
not shown	A54856	1	Break-away knob driver
10	B54801	1	Outside hub and plate assembly
11	B54163	2	Chassis screw

† Specify finish.

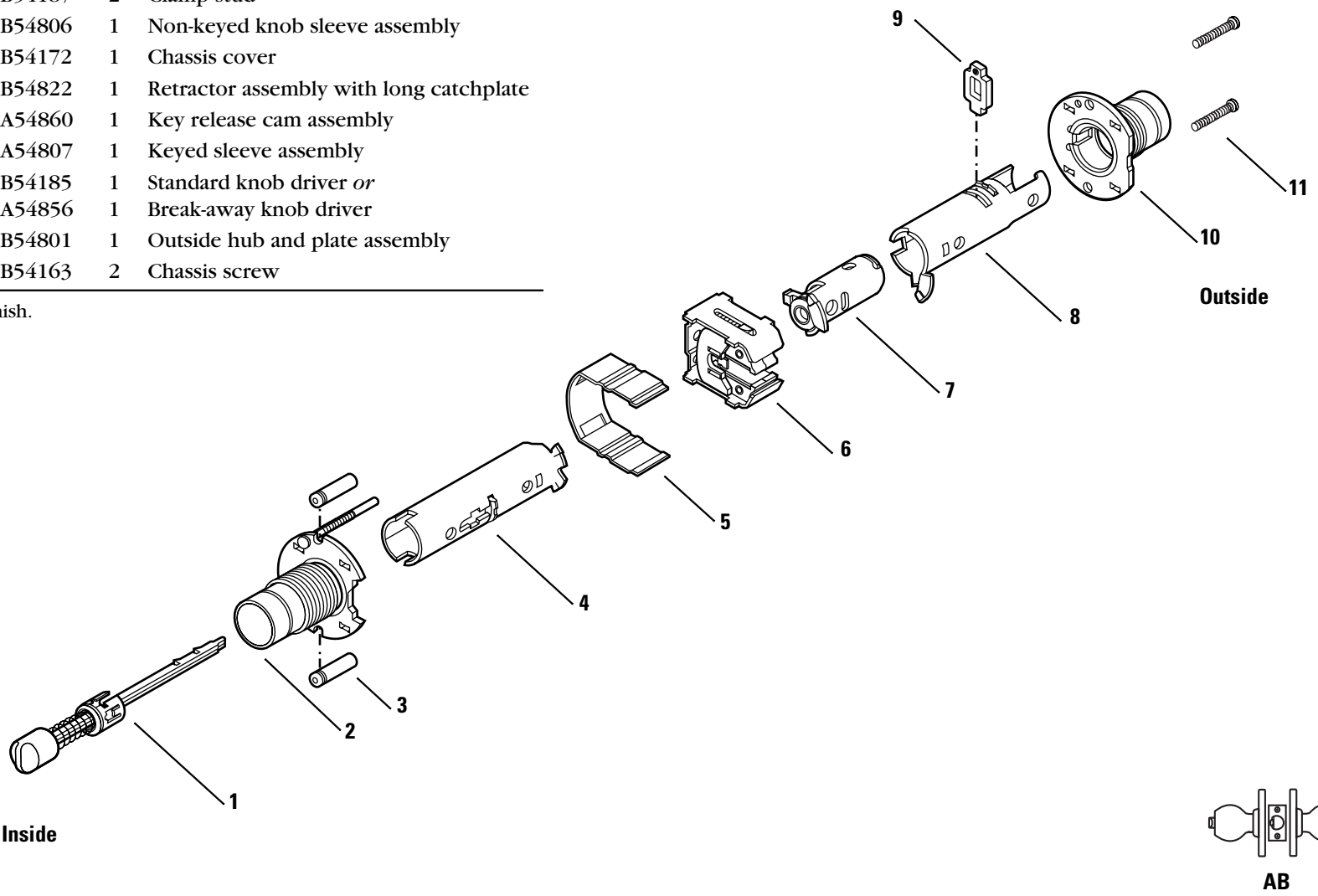


Figure 2.2 AB function exploded diagram

C FUNCTION CHASSIS—APARTMENT LOCK (ANSI F88)

Item	Part No.	Qty.	Description
1	A54810	1	Inside hub and plate assembly
2	B54187	2	Clamp stud
3	B54807	2	Keyed sleeve assembly
4	B54185	2	Standard knob driver *or*
not shown	A54856	2	Break-away knob driver
5	A54863	1	Key release cam assembly
6	B54172	1	Chassis cover
7	A54190	1	Locking bar
8	B54820	1	Retractor assembly without catchplate
9	A54860	1	Key release cam assembly
10	B54801	1	Outside hub and plate assembly
11	B54163	2	Chassis screw

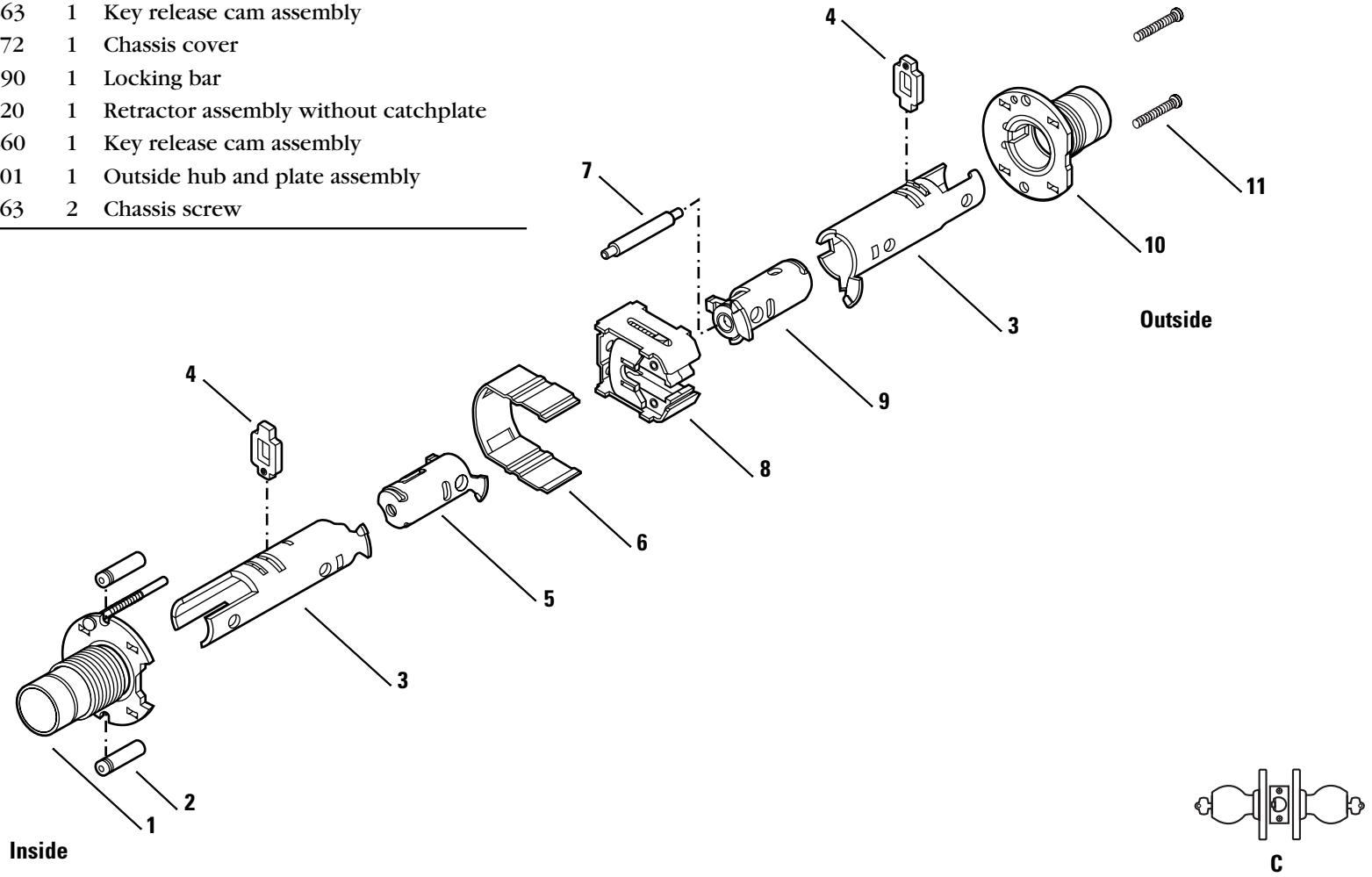
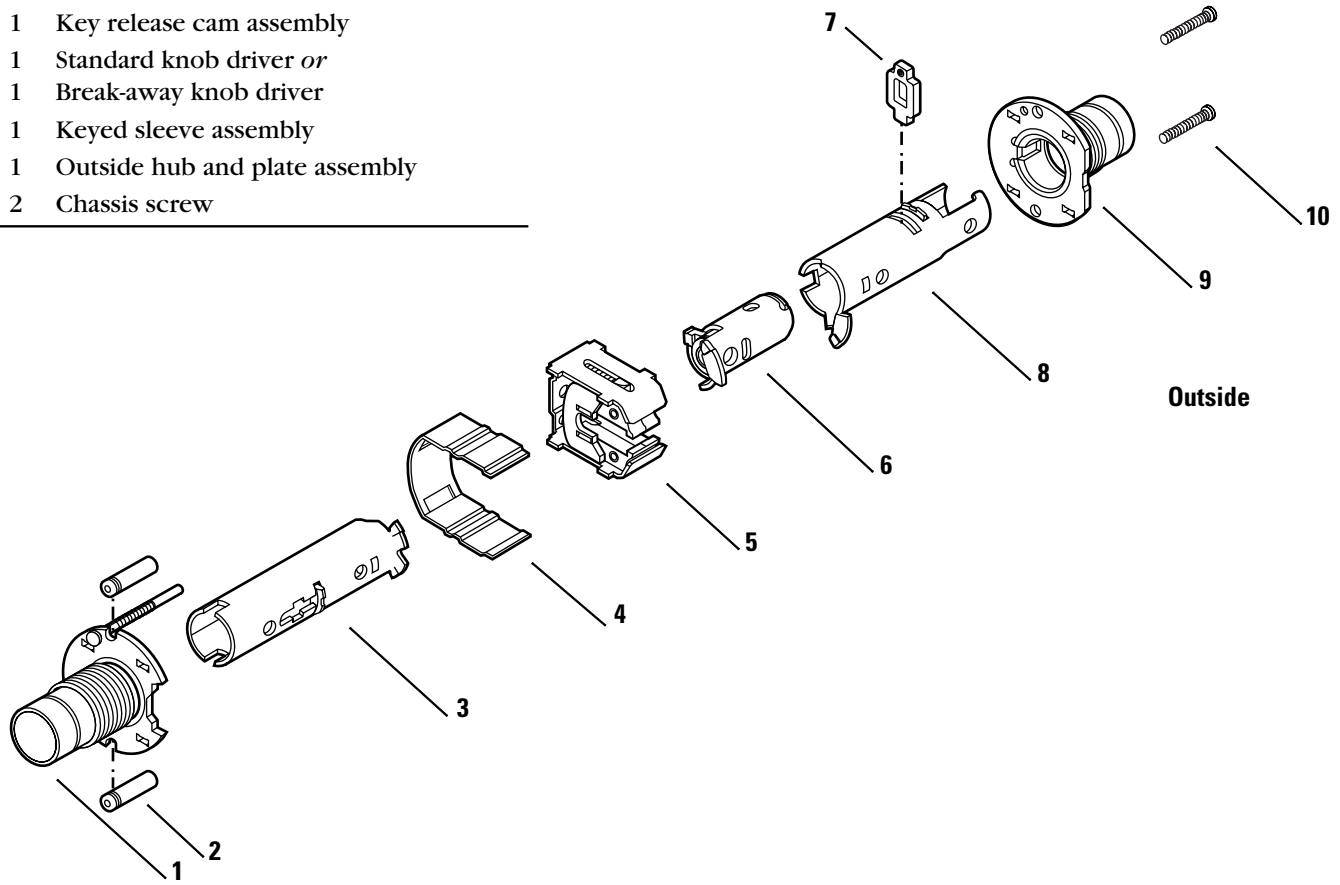


Figure 2.3 C function exploded diagram

D FUNCTION CHASSIS—STOREROOM LOCK (ANSI F86)

Item	Part No.	Qty.	Description
1	A54810	1	Inside hub and plate assembly
2	B54187	2	Clamp stud
3	B54806	1	Non-keyed sleeve assembly
4	B54172	1	Chassis cover
5	B54820	1	Retractor assembly without catchplate
6	A54861	1	Key release cam assembly
7	B54185	1	Standard knob driver *or*
not shown	A54856	1	Break-away knob driver
8	B54807	1	Keyed sleeve assembly
9	B54801	1	Outside hub and plate assembly
10	B54163	2	Chassis screw



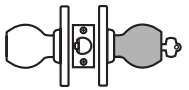


Figure 2.4 D function exploded diagram

E FUNCTION CHASSIS—SERVICE STATION LOCK (ANSI F92)

Item	Part No.	Qty.	Description
1	B54748	1	Slotted button assembly†
2	A54810	1	Inside hub and plate assembly
3	B54187	2	Clamp stud
4	B54806	1	Non-keyed sleeve assembly
5	B54172	1	Chassis cover
6	B54822	1	Retractor assembly with long catchplate
7	A54860	1	Key release cam assembly
8	B54185	1	Standard knob driver *or*
not shown	A54856	1	Break-away knob driver
9	B54807	1	Keyed sleeve assembly
10	B54801	1	Outside hub and plate assembly
11	B54163	2	Chassis screw

† Specify finish.

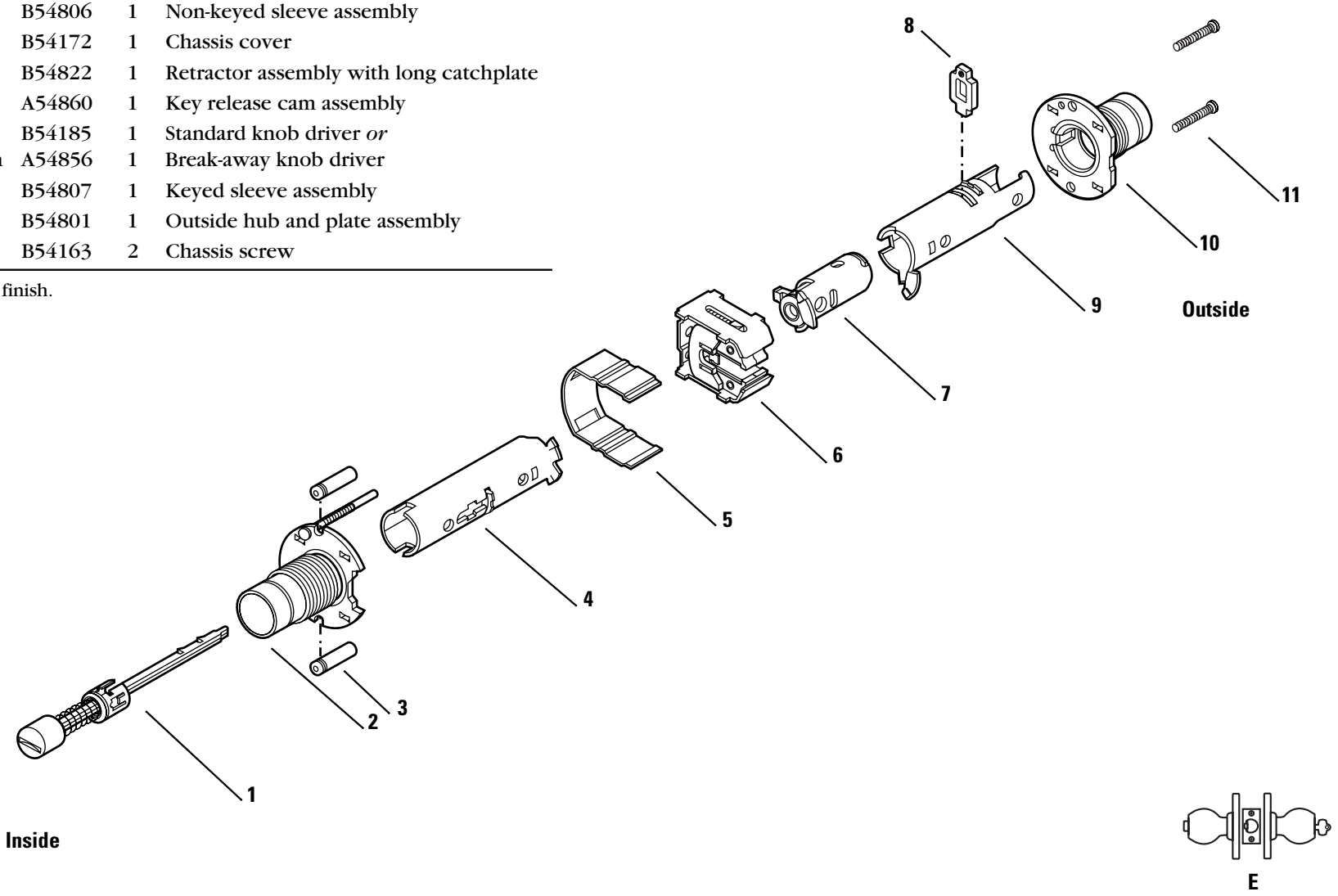


Figure 2.5 E function exploded diagram

G FUNCTION CHASSIS—STOREROOM LOCK (ANSI F91)

Item	Part No.	Qty.	Description
1	A54810	1	Inside hub and plate assembly
2	B54187	2	Clamp stud
3	B54807	2	Keyed sleeve assembly
4	B54185	2	Standard knob driver *or*
not shown	A54856	2	Break-away knob driver
5	A54864	2	Key release cam assembly
6	B54172	1	Chassis cover
7	B54820	1	Retractor assembly without catchplate
8	A54195	1	Locking bar
9	B54801	1	Outside hub and plate assembly
10	B54163	2	Chassis screw

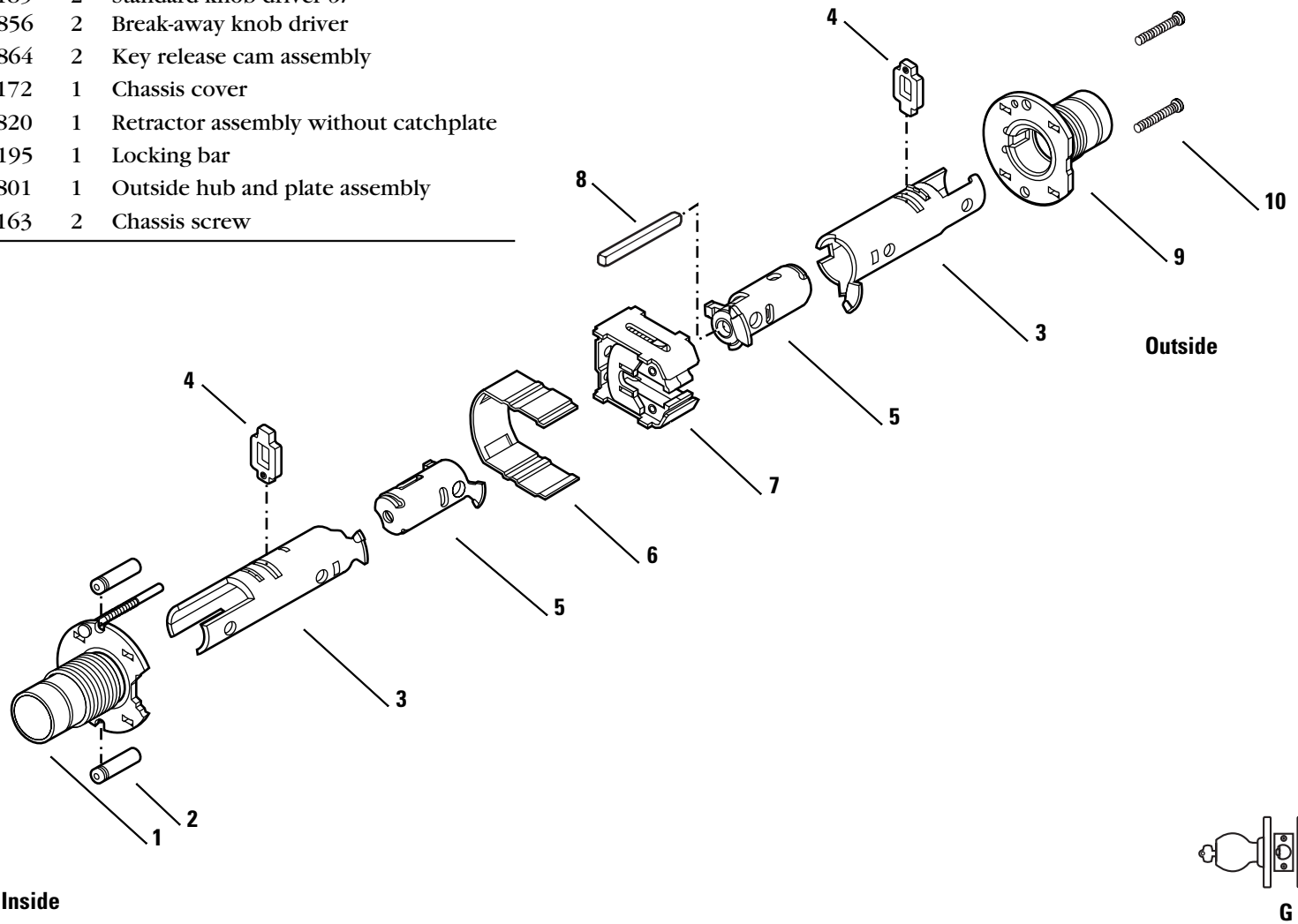


Figure 2.6 G function exploded diagram

H FUNCTION CHASSIS—HOTEL GUEST ROOM LOCK WITH INDICATOR (ANSI F93)
HJ FUNCTION CHASSIS—HOTEL GUEST ROOM LOCK WITHOUT INDICATOR

Item†	Part No.	Qty.	Description
1	B54744	1	Push button assembly‡
2	B54810	1	Inside hub and plate assembly
3	B54187	2	Clamp stud
4	B54806	1	Non-keyed sleeve assembly
5	B54172	1	Chassis cover
6	B54822	1	Retractor assembly with long catchplate
7	A54865	1	Key release cam assembly
8	B54832	1	Keyed sleeve and hub assembly
9	B54163	2	Chassis screw

† These functions require special throw members. See page 2–55.

‡ Specify finish.

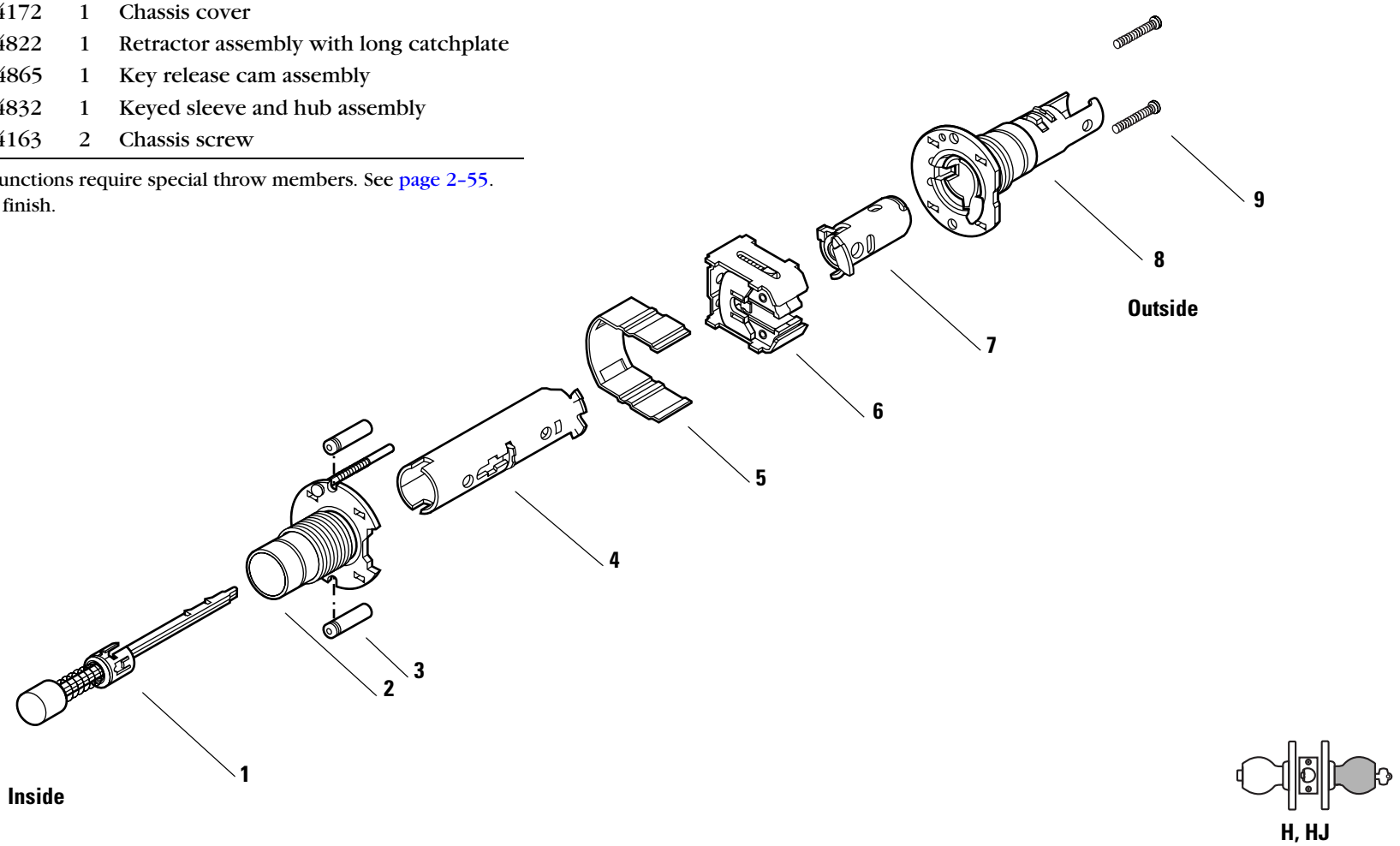


Figure 2.7 H/HJ function exploded diagram

L FUNCTION CHASSIS—PRIVACY LOCK (ANSI F76)

Item	Part No.	Qty.	Description
1	B54744	1	Push button assembly†
2	A54810	1	Inside hub and plate assembly
3	B54187	2	Clamp stud
4	B54806	1	Non-keyed sleeve assembly
5	B54172	1	Chassis cover
6	B54822	1	Retractor assembly with long catchplate
7	A54860	1	Key release cam assembly
8	B54808	1	Non-keyed sleeve assembly
9	B54801	1	Outside hub and plate assembly
10	A54745	1	Button release assembly†
11	A54163	2	Chassis screw

† Specify finish.

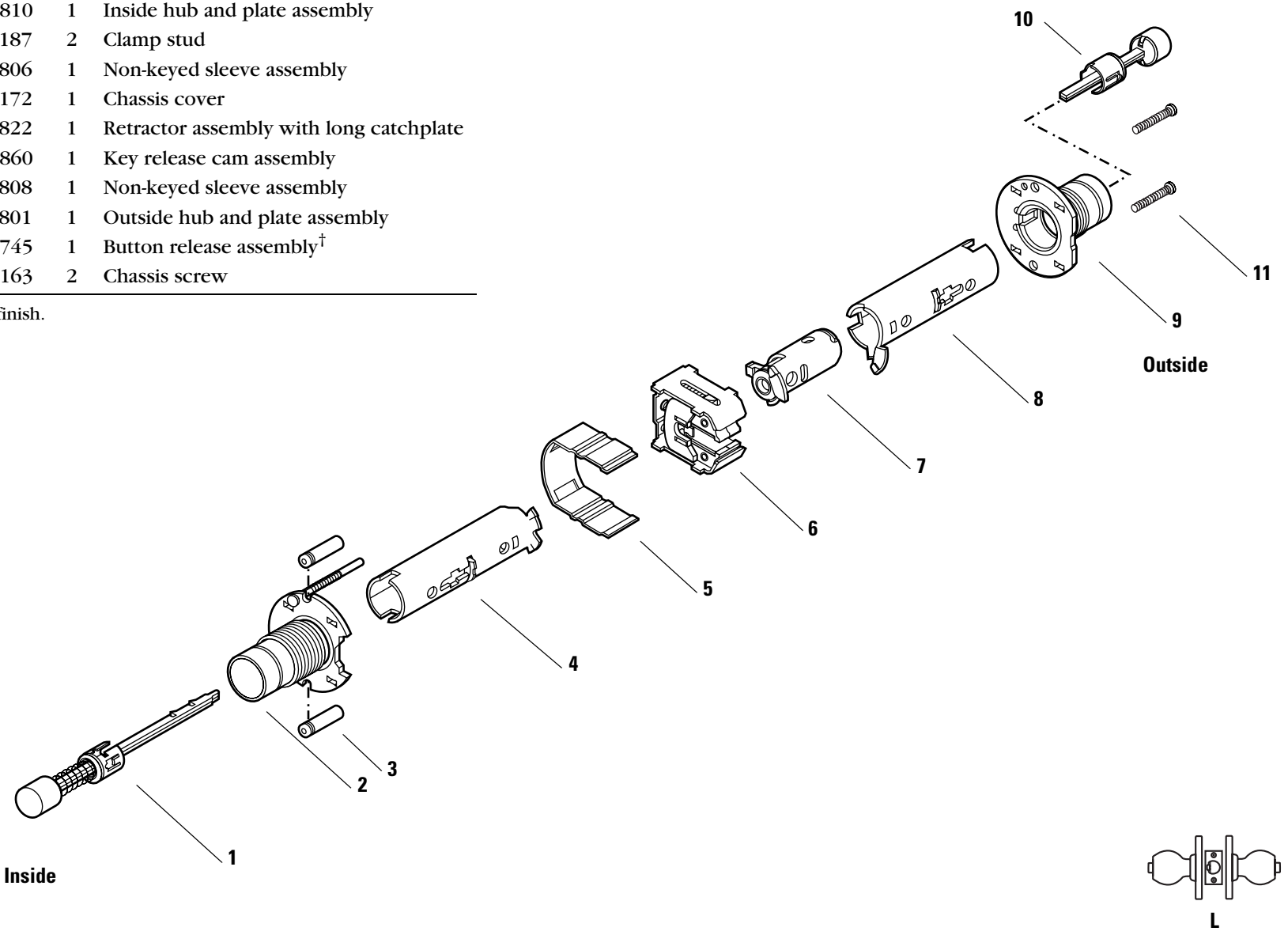
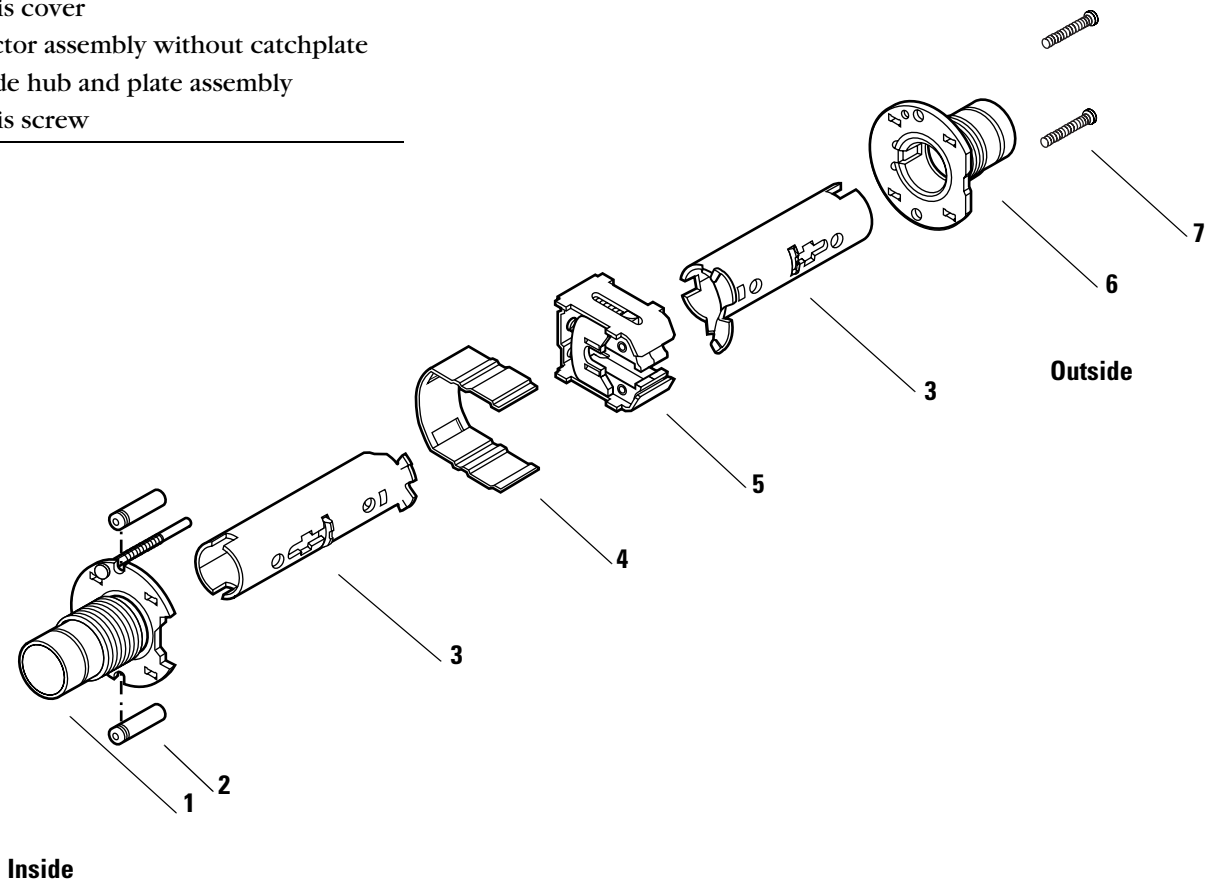


Figure 2.8 L function exploded diagram

N FUNCTION CHASSIS—PASSAGE LOCK (ANSI F75)

Item	Part No.	Qty.	Description
1	A54810	1	Inside hub and plate assembly
2	B54187	2	Clamp stud
3	B54806	2	Non-keyed sleeve assembly
4	B54172	1	Chassis cover
5	B54820	1	Retractor assembly without catchplate
6	B54801	1	Outside hub and plate assembly
7	B54163	2	Chassis screw



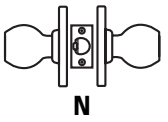


Figure 2.9 N function exploded diagram

NX FUNCTION—EXIT LOCK (ANSI F89)

Item	Part No.	Qty.	Description
1	B54749	1	Locking bar assembly for NX function†
2	B54810	1	Inside hub and plate assembly
3	B54187	2	Clamp stud
4	B54806	1	Non-keyed sleeve assembly
5	B54172	1	Chassis cover
6	B54820	1	Retractor assembly without catchplate
7	A54867	1	Key release cam assembly
8	B54808	1	Non-keyed sleeve assembly
9	B54801	1	Outside hub and plate assembly
10	B54163	2	Chassis screw

† Specify finish.

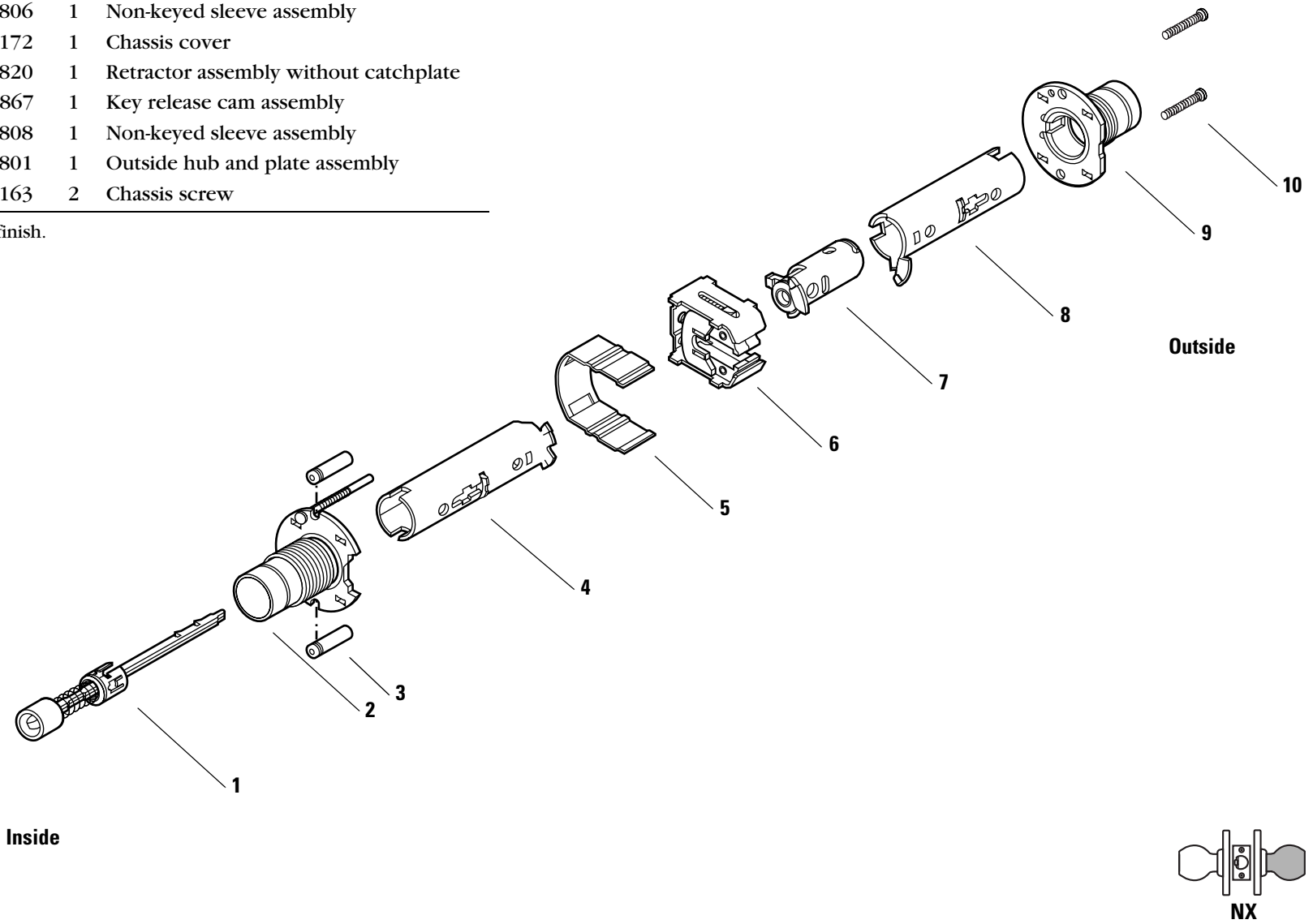


Figure 2.10 NX function exploded diagram

P FUNCTION CHASSIS—PATIO LOCK (ANSI F77)

Item	Part No.	Qty.	Description
1	B54744	1	Push button assembly†
2	A54810	1	Inside hub and plate assembly
3	B54187	2	Clamp stud
4	B54806	1	Non-keyed sleeve assembly
5	B54172	1	Chassis cover
6	B54822	1	Retractor assembly with long catchplate
7	A54867	1	Key release cam assembly
8	B54808	1	Non-keyed sleeve assembly
9	B54801	1	Outside hub and plate assembly
10	B54163	2	Chassis screw

† Specify finish.

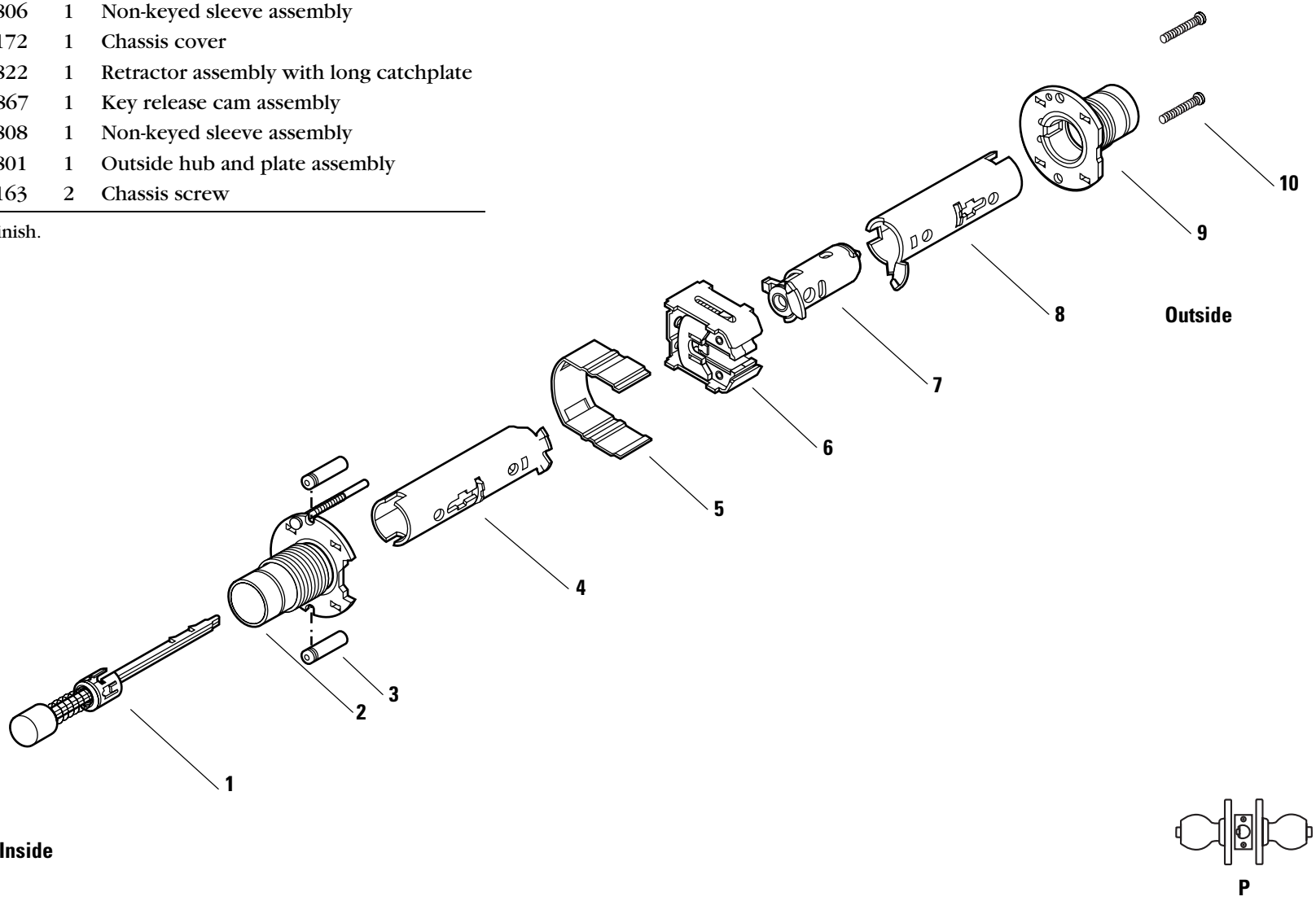
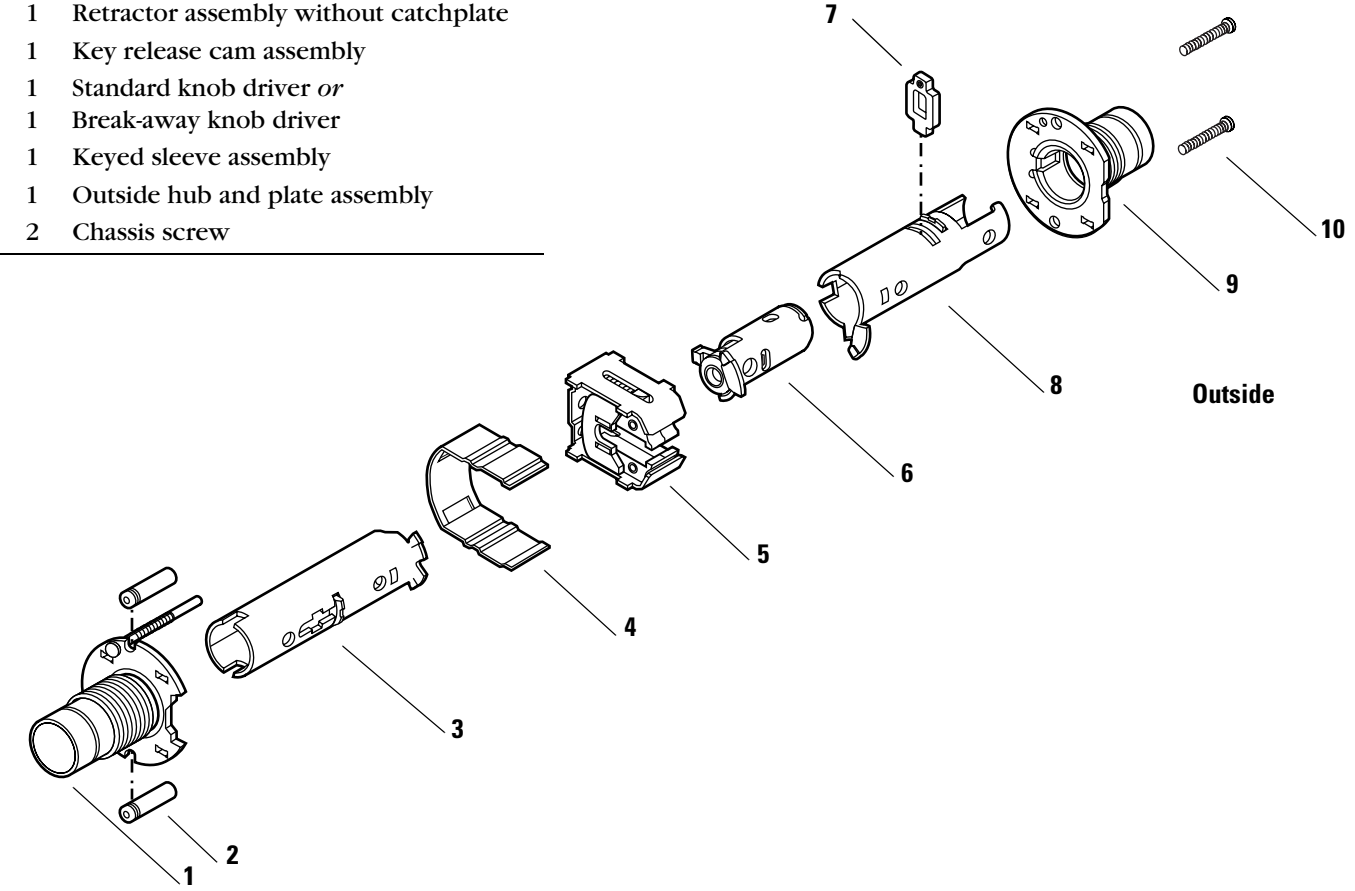
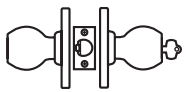


Figure 2.11 P function exploded diagram

R FUNCTION CHASSIS—CLASSROOM LOCK (ANSI F84)

Item	Part No.	Qty.	Description
1	B54810	1	Inside hub and plate assembly
2	B54187	2	Clamp stud
3	B54806	1	Non-keyed sleeve assembly
4	B54172	1	Chassis cover
5	B54820	1	Retractor assembly without catchplate
6	A54862	1	Key release cam assembly
7	B54185	1	Standard knob driver *or*
not shown	A54856	1	Break-away knob driver
8	B54807	1	Keyed sleeve assembly
9	B54801	1	Outside hub and plate assembly
10	B54163	2	Chassis screw



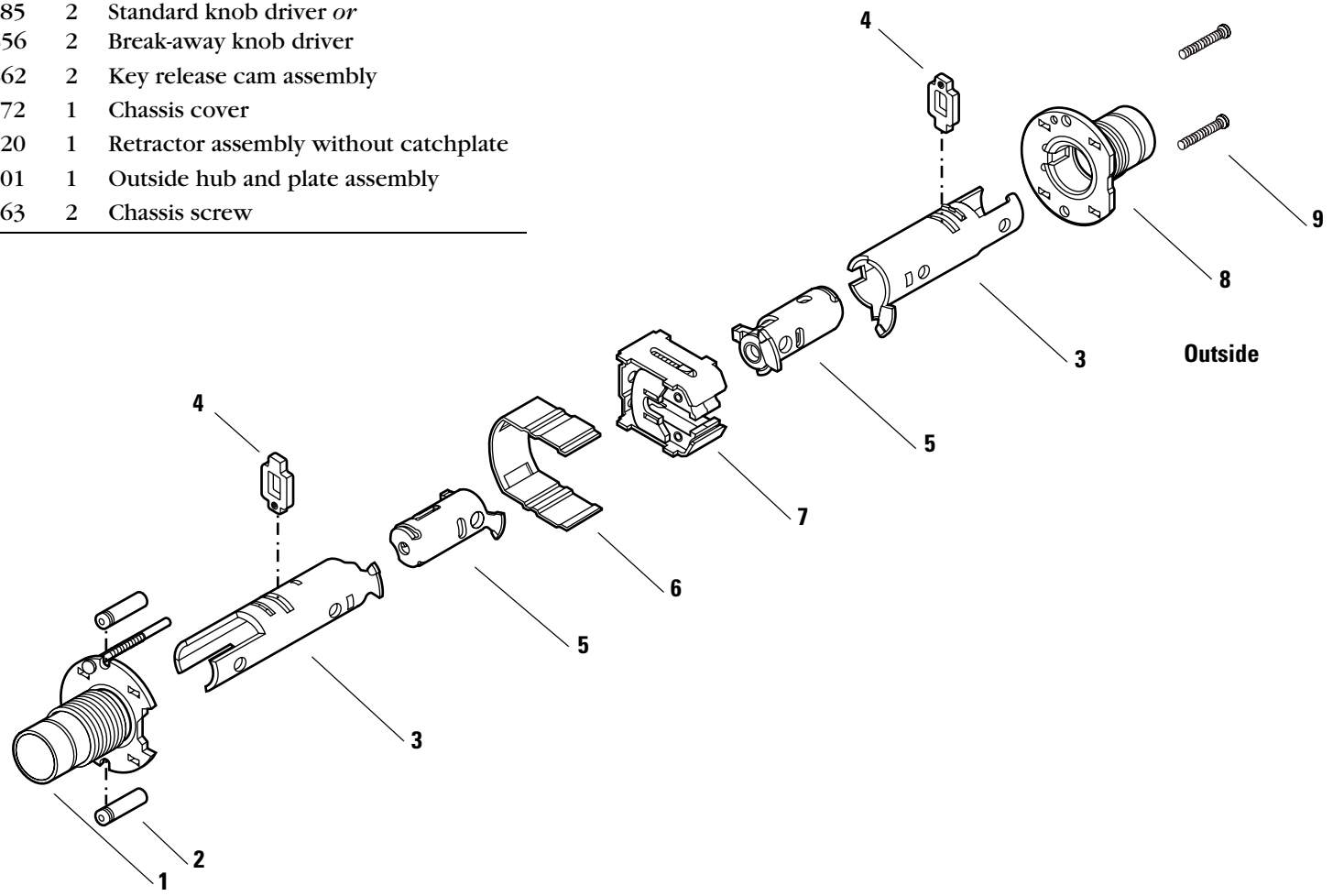


R

Figure 2.12 R function exploded diagram

S FUNCTION CHASSIS—COMMUNICATING LOCK (ANSI F80)

Item	Part No.	Qty.	Description
1	B54810	1	Inside hub and plate assembly
2	B54187	2	Clamp stud
3	B54807	2	Keyed sleeve assembly
4	B54185	2	Standard knob driver *or*
not shown	A54856	2	Break-away knob driver
5	A54862	2	Key release cam assembly
6	B54172	1	Chassis cover
7	B54820	1	Retractor assembly without catchplate
8	B54801	1	Outside hub and plate assembly
9	B54163	2	Chassis screw



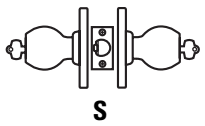


Figure 2.13 S function exploded diagram

T FUNCTION CHASSIS—DORMITORY LOCK (ANSI F90)

Item	Part No.	Qty.	Description
1	B54744	1	Push button assembly†
2	B54810	1	Inside hub and plate assembly
3	B54187	2	Clamp stud
4	B54806	1	Non-keyed sleeve assembly
5	B54172	1	Chassis cover
6	B54822	1	Retractor assembly with long catchplate
7	A54862	1	Key release cam assembly
8	B54185	1	Standard knob driver *or*
not shown	A54856	1	Break-away knob driver
9	B54807	1	Keyed sleeve assembly
10	B54801	1	Outside hub and plate assembly
11	B54163	2	Chassis screw

† Specify finish.

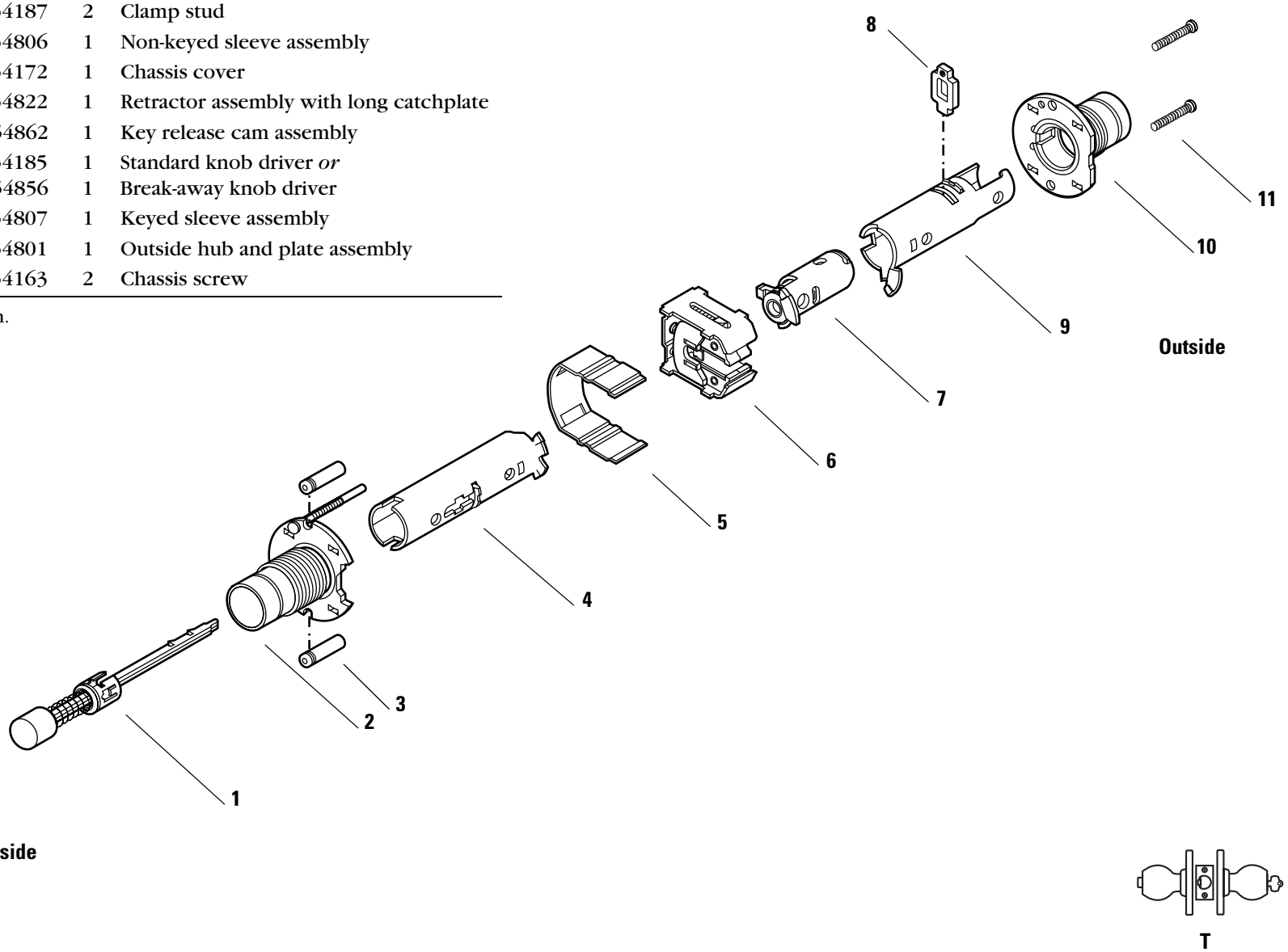


Figure 2.14 T function exploded diagram

W FUNCTION CHASSIS—UTILITY OR INSTITUTIONAL LOCK (ANSI F87)

Item	Part No.	Qty.	Description
1	B54810	1	Inside hub and plate assembly
2	B54187	2	Clamp stud
3	B54807	2	Keyed sleeve assembly
4	B54185	2	Standard knob driver *or*
not shown	A54856	2	Break-away knob driver
5	A54861	2	Key release cam assembly
6	B54172	1	Chassis cover
7	B54820	1	Retractor assembly without catchplate
8	B54801	1	Outside hub and plate assembly
9	B54163	2	Chassis screw

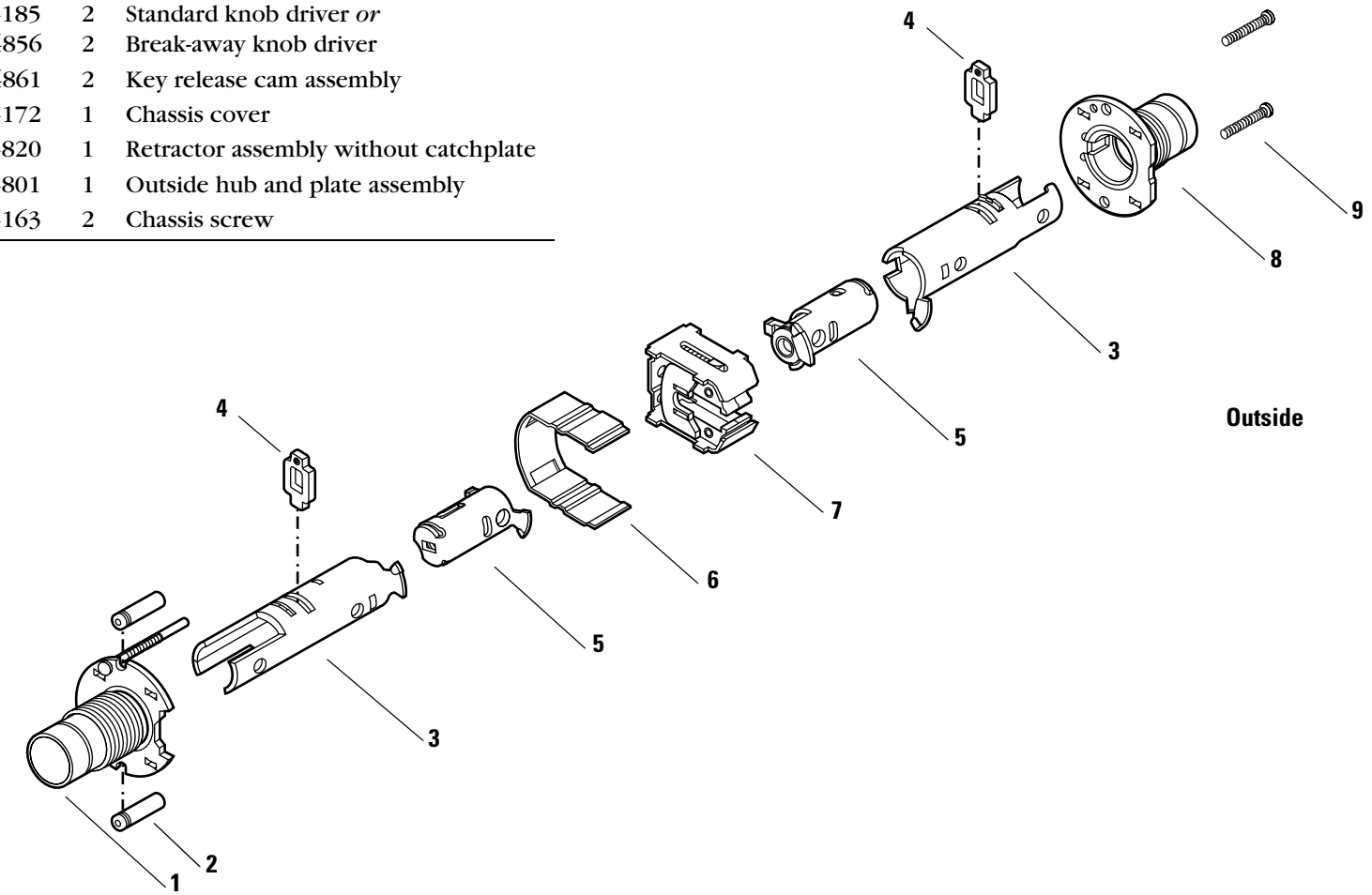
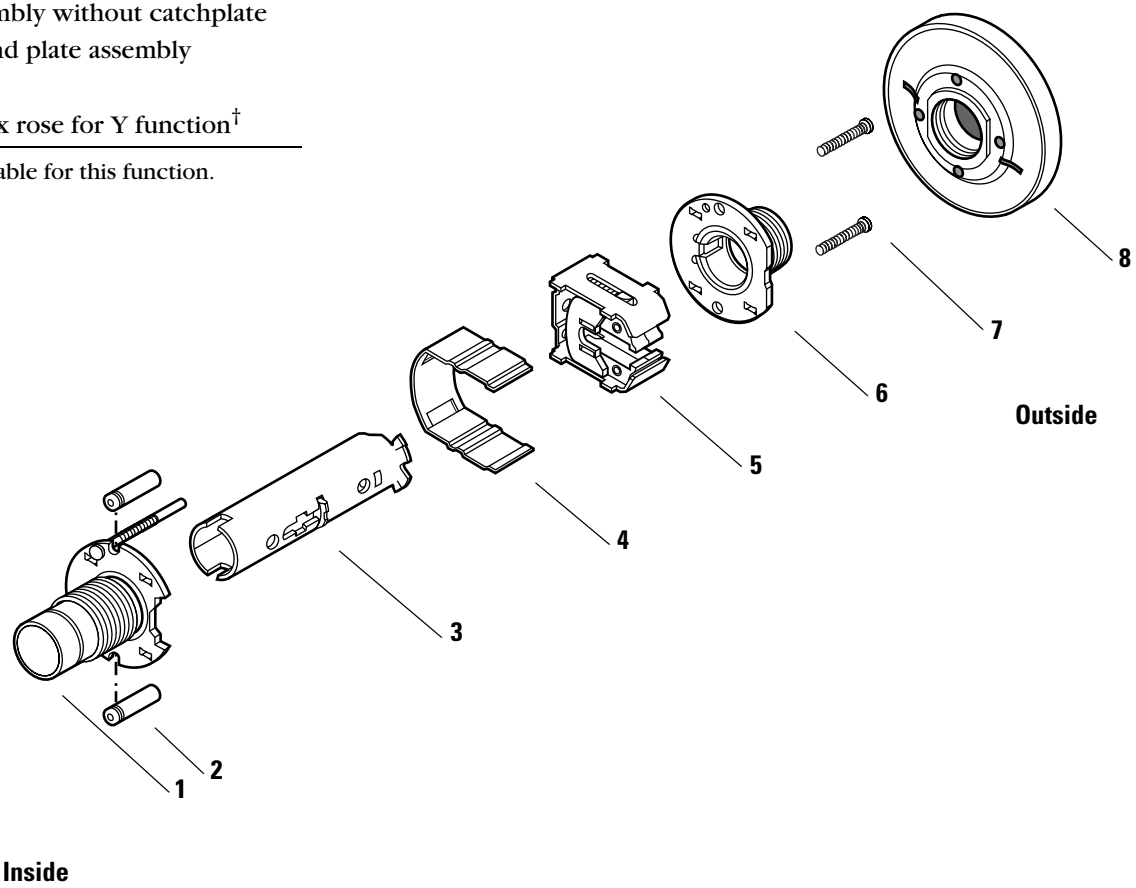


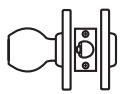
Figure 2.15 W function exploded diagram

Y FUNCTION CHASSIS—EXIT LOCK

Item	Part No.	Qty.	Description
1	B54810	1	Inside hub and plate assembly
2	B54187	2	Clamp stud
3	B54806	1	Non-keyed sleeve assembly
4	B54172	1	Chassis cover
5	B54820	1	Retractor assembly without catchplate
6	B54809	1	Outside hub and plate assembly
7	B54163	2	Chassis screw
8	A54717	1	Outside convex rose for Y function†

† A54717 is the only outside rose available for this function. Specify finish.





Y

Figure 2.16 Y function exploded diagram

NON-STANDARD FUNCTIONS
A FUNCTION CHASSIS—ENTRANCE LOCK (ANSI F81)

Item	Part No.	Qty.	Description
1	B54742	1	Turn button assembly†
2	B54810	1	Inside hub and plate assembly
3	B54187	2	Clamp stud
4	B54806	1	Non-keyed sleeve assembly
5	B54172	1	Chassis cover
6	B54820	1	Retractor assembly without catchplate
7	A54860	1	Key release cam assembly
8	B54185	1	Standard knob driver *or*
not shown	A54856	1	Break-away knob driver
9	B54807	1	Keyed sleeve assembly
10	B54801	1	Outside hub and plate assembly
11	B54163	2	Chassis screw

† Specify finish.

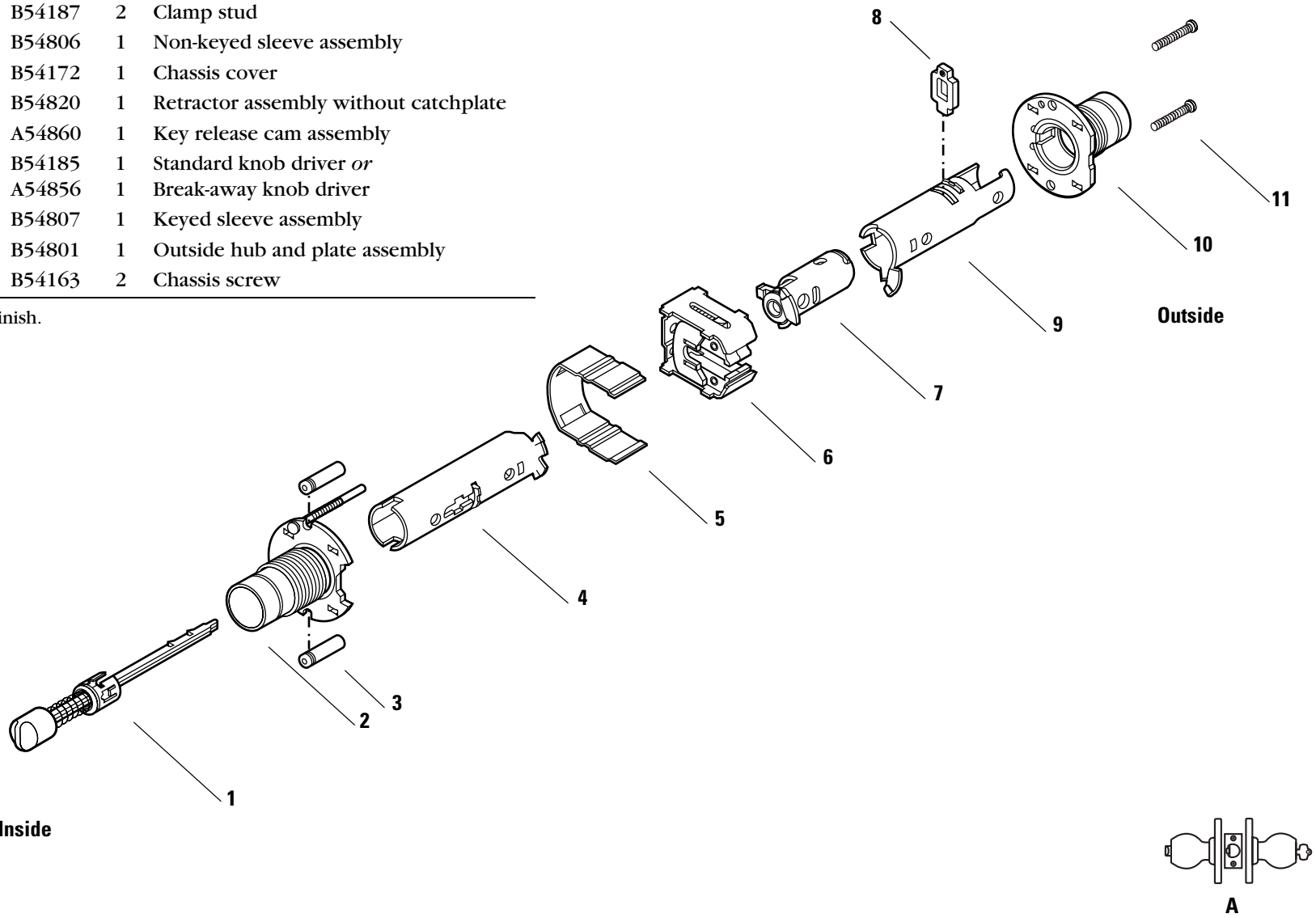


Figure 2.17 A function exploded diagram

B FUNCTION CHASSIS—OFFICE LOCK (ANSI F82)

Item	Part No.	Qty.	Description
1	B54744	1	Push button assembly†
2	B54810	1	Inside hub and plate assembly
3	B54187	2	Clamp stud
4	B54806	1	Non-keyed sleeve assembly
5	B54172	1	Chassis cover
6	B54821	1	Retractor assembly with short catchplate
7	A54860	1	Key release cam assembly
8	B54185	1	Standard knob driver *or*
not shown	A54856	1	Break-away knob driver
9	B54807	1	Keyed sleeve assembly
10	B54801	1	Outside hub and plate assembly
11	B54163	2	Chassis screw

† Specify finish.

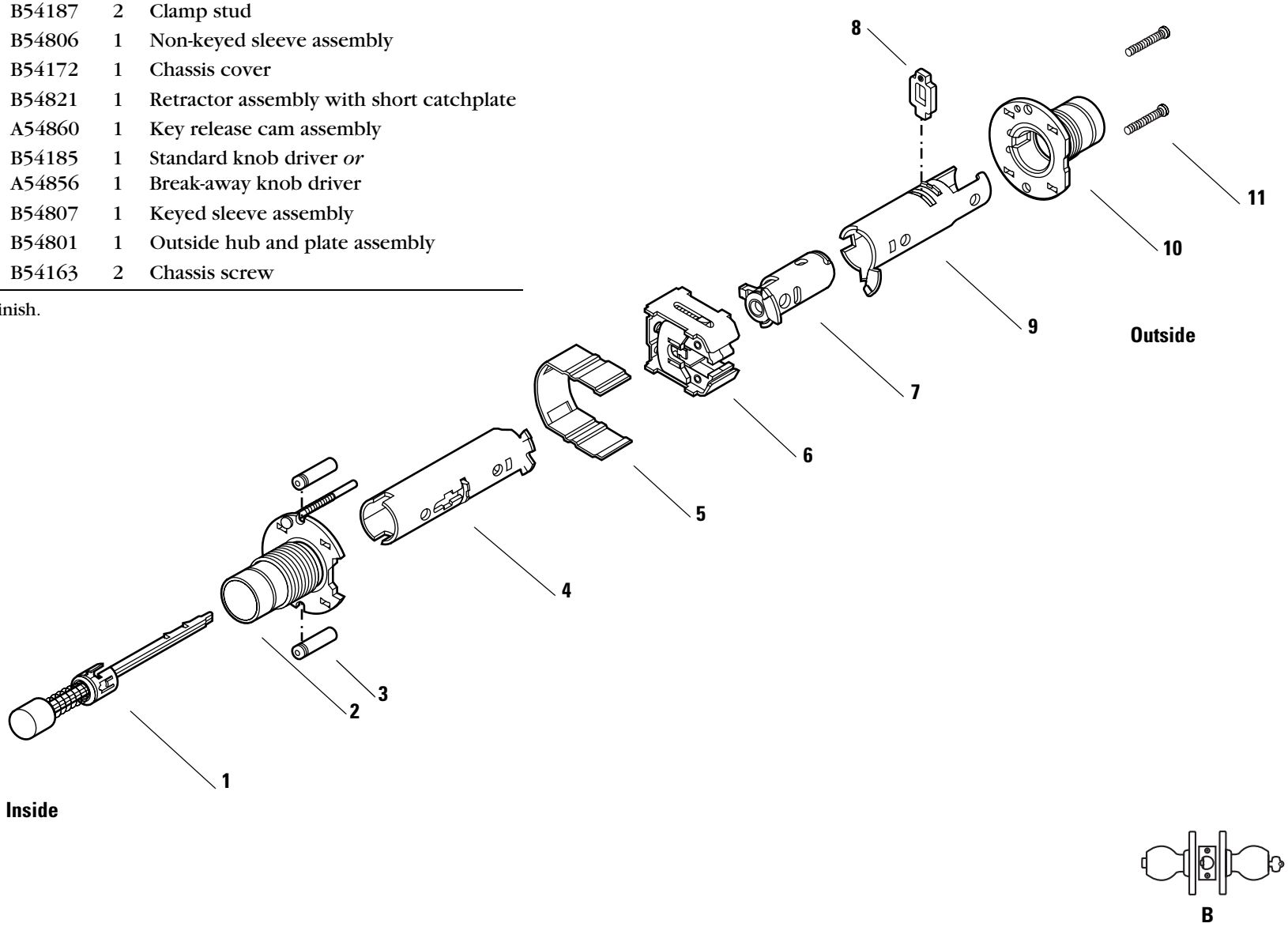


Figure 2.18 B function exploded diagram

DR FUNCTION CHASSIS—SPECIAL LOCK

Item	Part No.	Qty.	Description
1	B54810	1	Inside hub and plate assembly
2	B54187	2	Clamp stud
3	B54807	2	Keyed sleeve assembly
4	B54185	2	Standard knob driver *or*
not shown	A54856	2	Break-away knob driver
5	A54862	1	Key release cam assembly
6	B54172	1	Chassis cover
7	B54820	1	Retractor assembly without catchplate
8	A54861	1	Key release cam assembly
9	B54801	1	Outside hub and plate assembly
10	B54163	2	Chassis screw

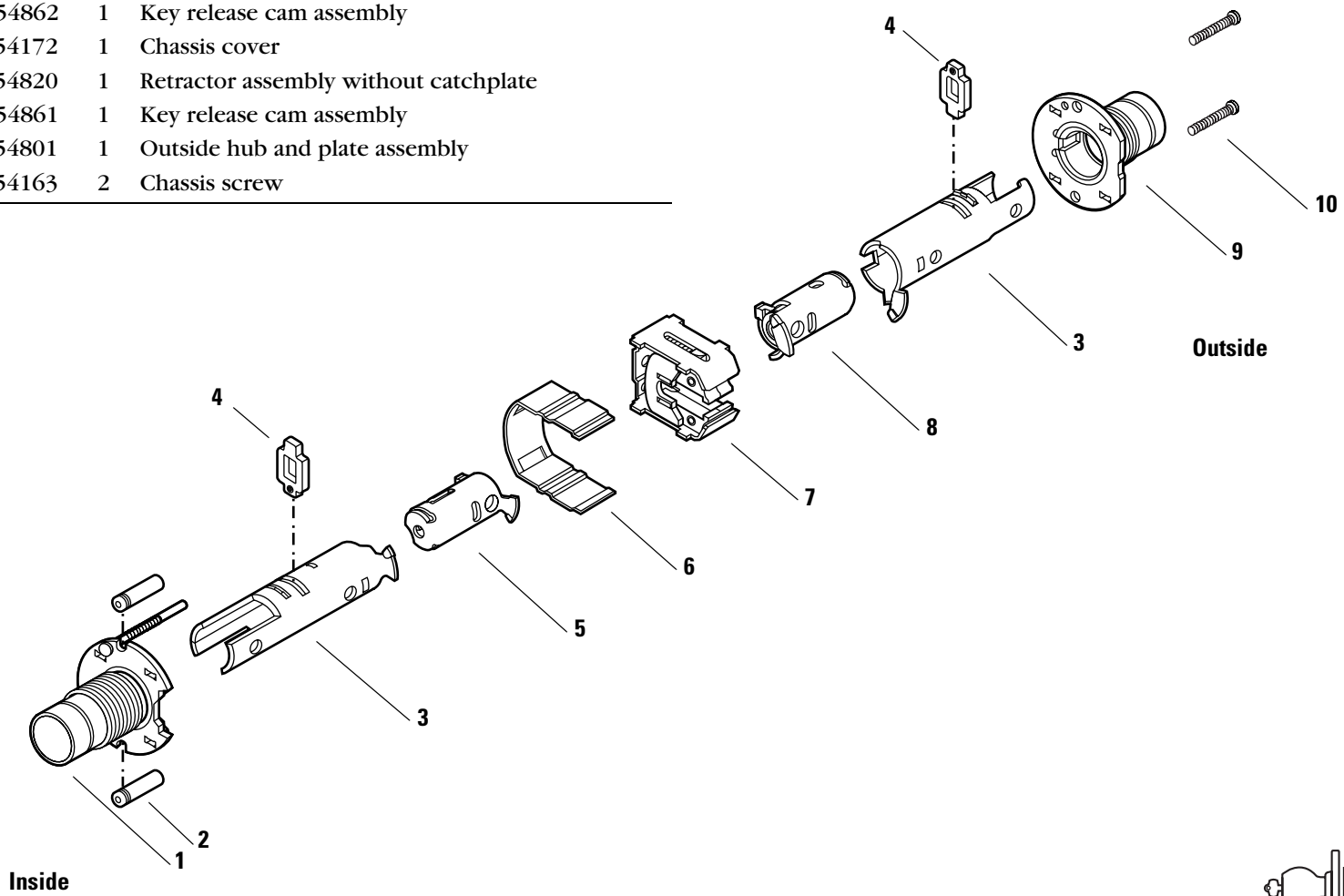


Figure 2.19 DR function exploded diagram

DZ FUNCTION CHASSIS—CLOSET OR STOREROOM LOCK

Item	Part No.	Qty.	Description
1	A54736	1	Turn blade assembly for "Z" function†
2	B54810	1	Inside hub and plate assembly
3	B54187	2	Clamp stud
4	A54835	1	Non-keyed sleeve assembly
5	B54172	1	Chassis cover
6	B54820	1	Retractor assembly without catchplate
7	A54861	1	Key release cam assembly
8	B54185	1	Standard knob driver *or*
not shown	A54856	1	Break-away knob driver
9	B54807	1	Keyed sleeve assembly
10	B54801	1	Outside hub and plate assembly
11	B54163	2	Chassis screw

† You need to install an A or C style rose first before installing the turn blade assembly. See page 2–51. Specify finish.

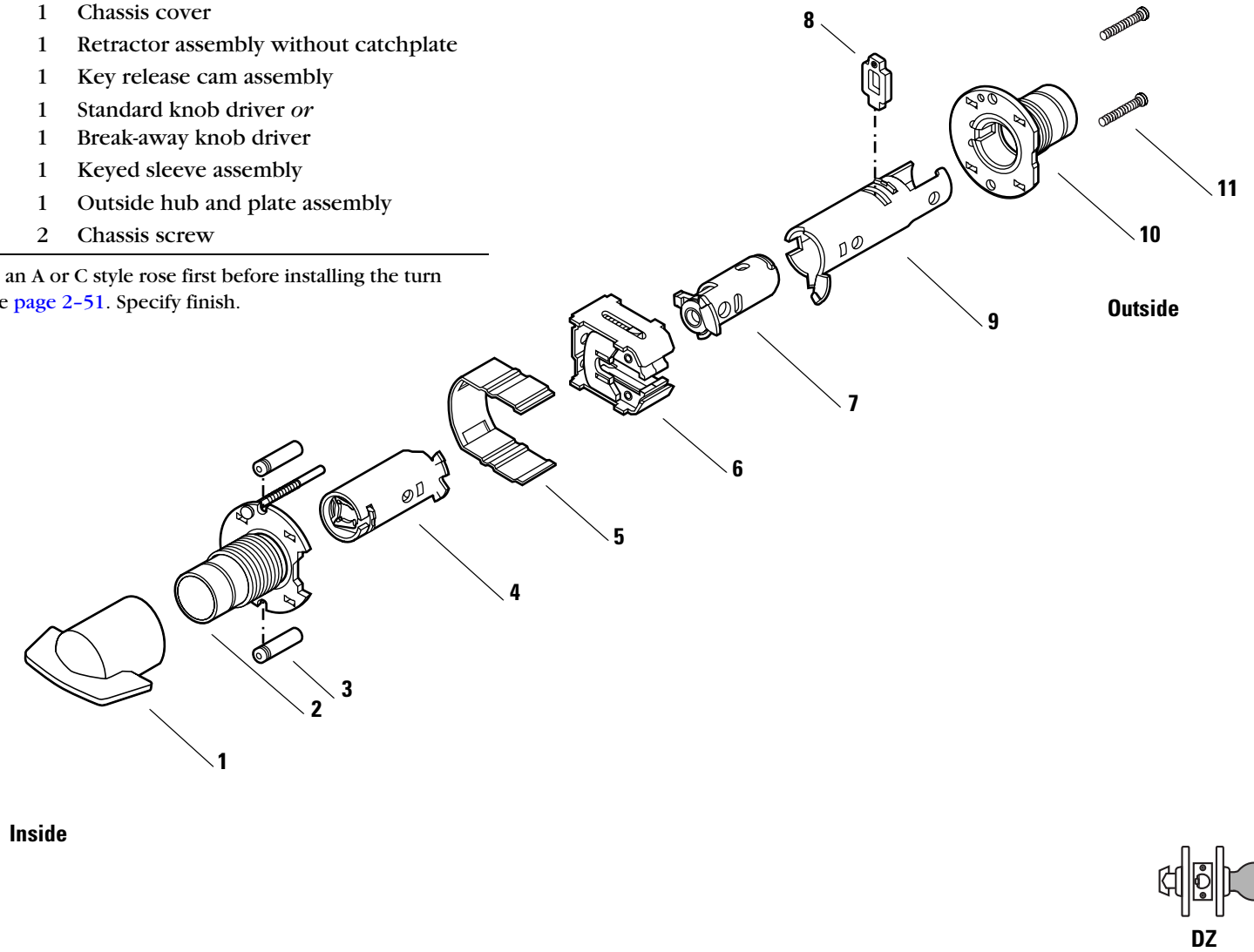


Figure 2.20 DZ function exploded diagram

EA FUNCTION CHASSIS—ENTRANCE OR OFFICE LOCK

Item	Part No.	Qty.	Description
1	B54748	1	Slotted button assembly†
2	B54810	1	Inside hub and plate assembly
3	B54187	2	Clamp stud
4	B54806	1	Non-keyed sleeve assembly
5	B54172	1	Chassis cover
6	B54821	1	Retractor assembly with short catchplate
7	A54860	1	Key release cam assembly
8	B54185	1	Standard knob driver *or*
not shown	A54856	1	Break-away knob driver
9	B54807	1	Keyed sleeve assembly
10	B54801	1	Outside hub and plate assembly
11	B54163	2	Chassis screw

† Specify finish.

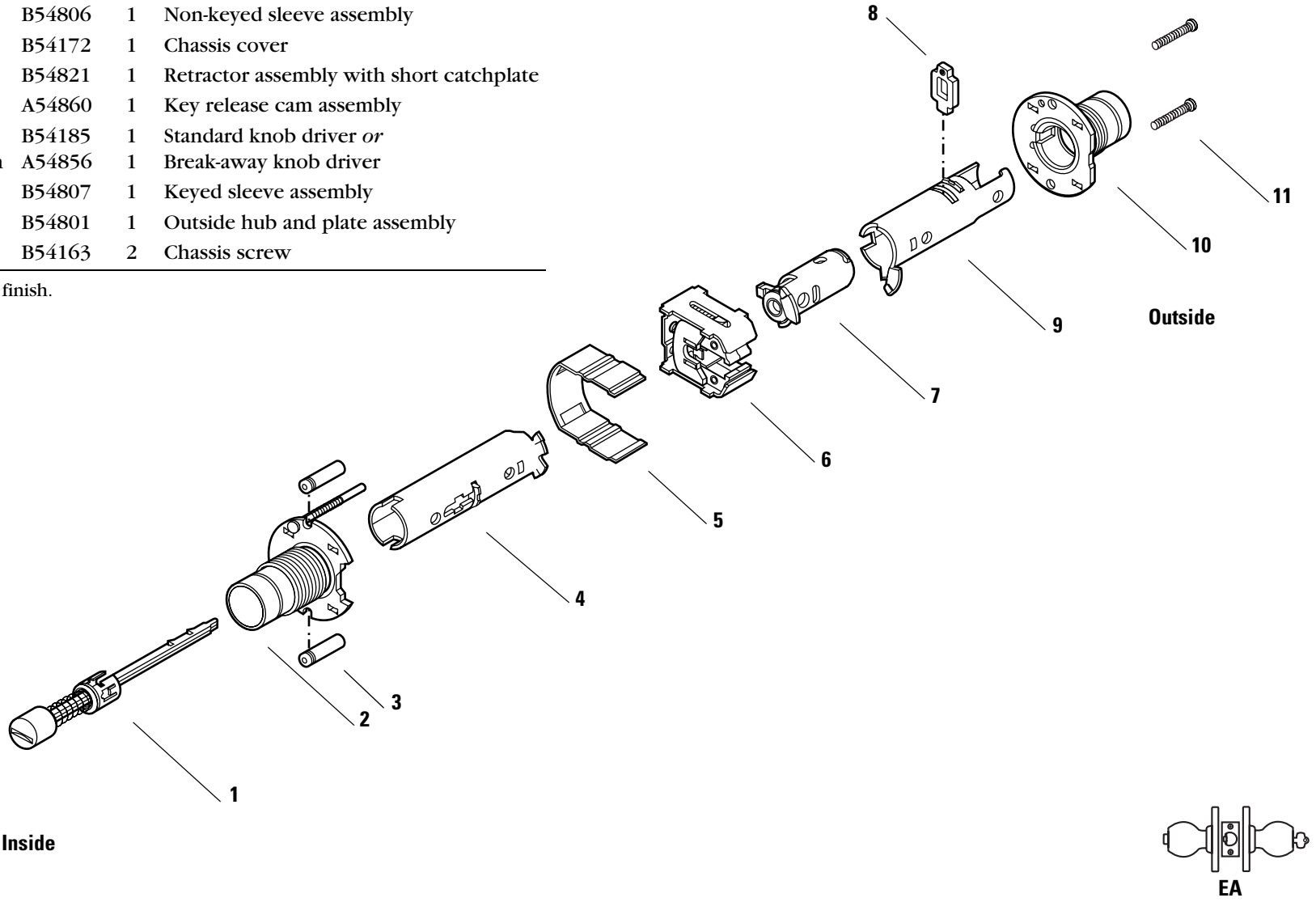


Figure 2.21 EA function exploded diagram

LL FUNCTION CHASSIS—HOSPITAL PRIVACY LOCK

Item	Part No.	Qty.	Description
1	B54744	1	Push button assembly†
2	B54810	1	Inside hub and plate assembly
3	B54187	2	Clamp stud
4	B54806	1	Non-keyed sleeve assembly
5	B54172	1	Chassis cover
6	B54822	1	Retractor assembly with long catchplate
7	A54860	1	Key release cam assembly
8	B54185	1	Standard knob driver *or*
not shown	A54856	1	Break-away knob driver
9	B54807	1	Keyed sleeve assembly
10	B54801	1	Outside hub and plate assembly
11	B54742	1	Turn button assembly†
12	B54163	2	Chassis screw

† Specify finish.

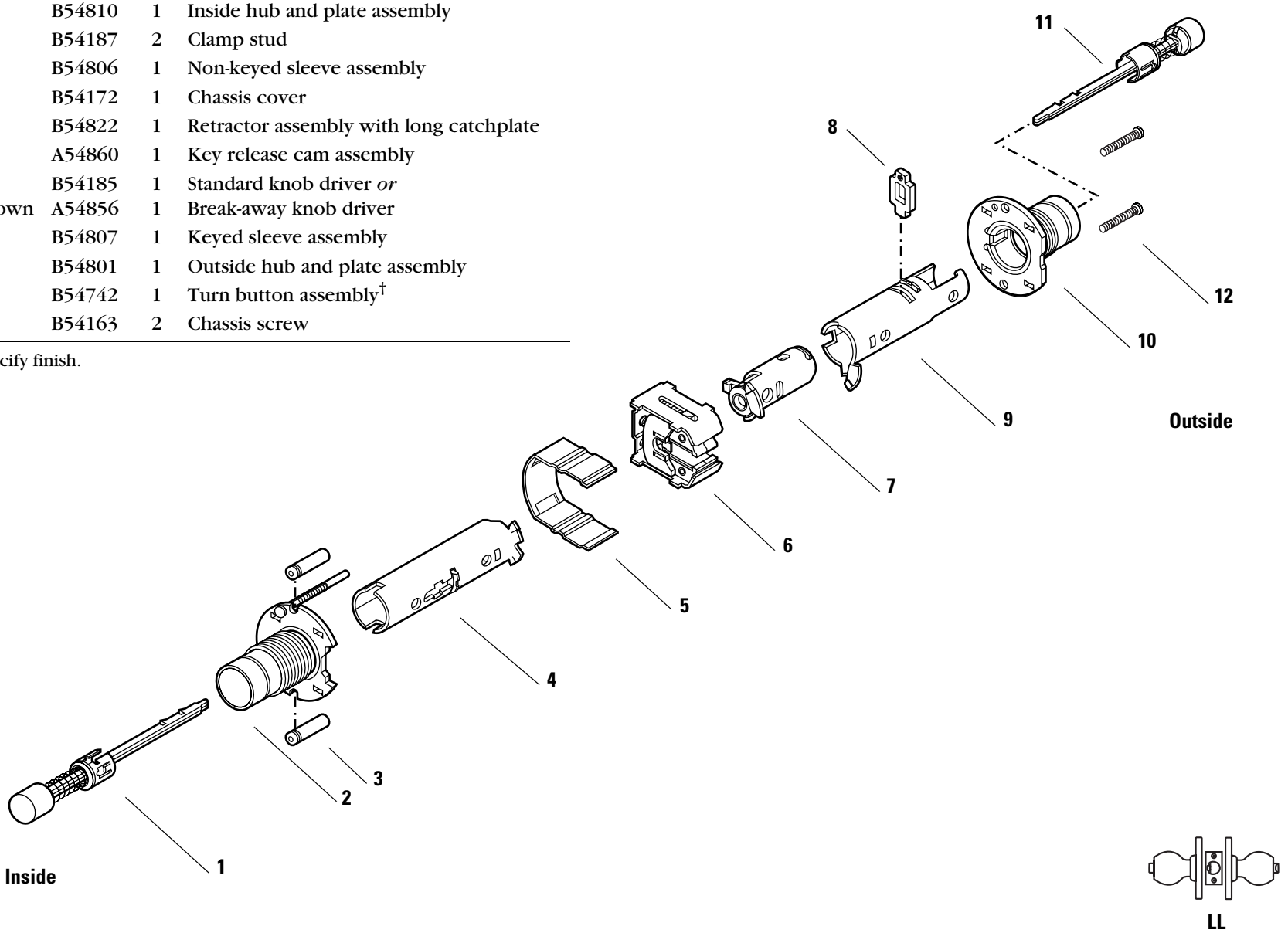


Figure 2.22 LL function exploded diagram

M FUNCTION CHASSIS—COMMUNICATING LOCK (ANSI F78)

Item	Part No.	Qty.	Description
1	B54742	2	Turn button assembly†
2	B54810	1	Inside hub and plate assembly
3	B54187	2	Clamp stud
4	B54808	2	Non-keyed sleeve assembly
5	A54866	2	Key release cam assembly
6	B54172	1	Chassis cover
7	A54204	1	Bridge bar
8	B54820	1	Retractor assembly without catchplate
9	B54801	1	Outside hub and plate assembly
10	B54163	2	Chassis screw

† Specify finish.

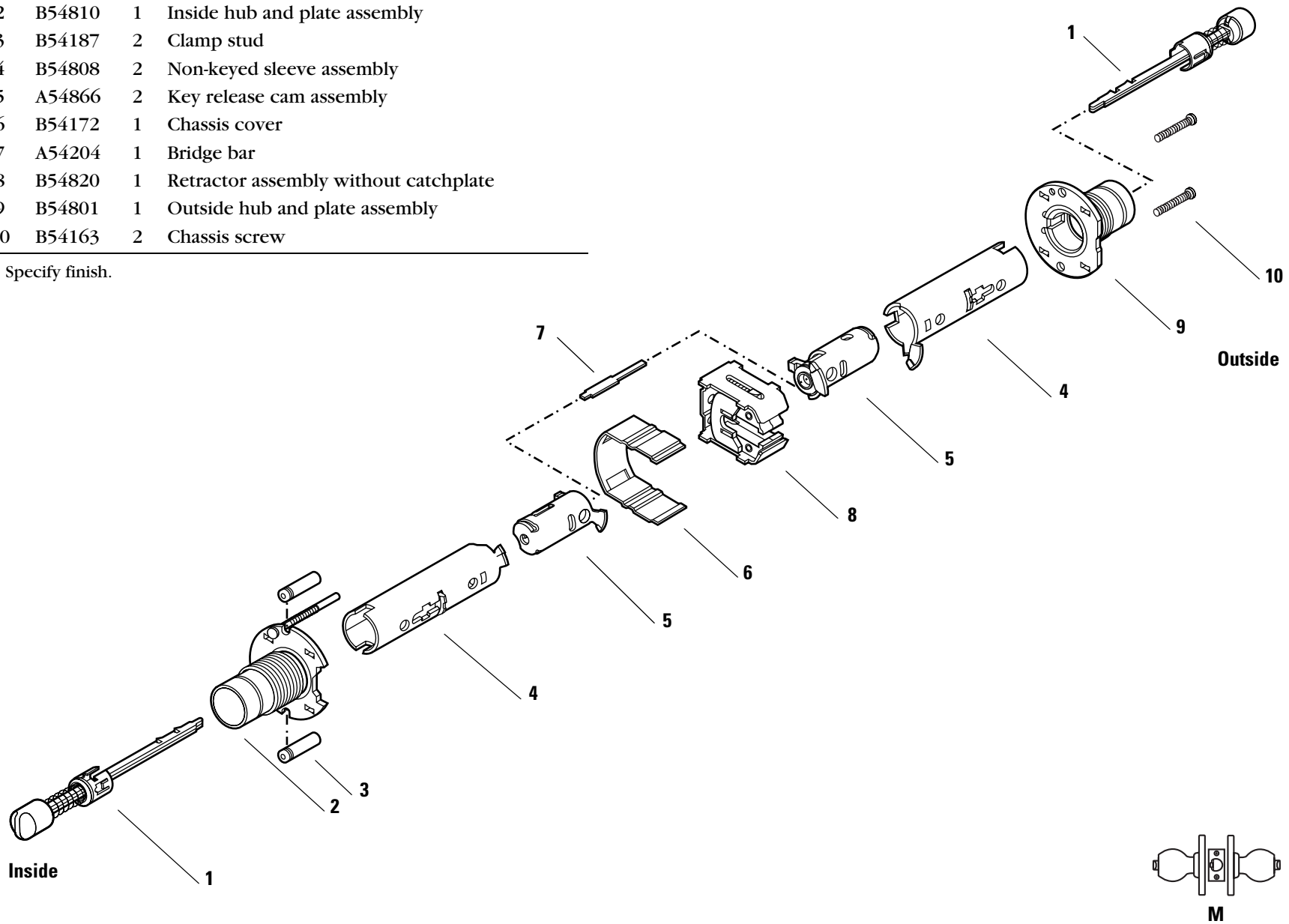


Figure 2.23 M function exploded diagram

Q FUNCTION CHASSIS—EXIT LOCK (ANSI F83)

Item	Part No.	Qty.	Description
1	B54742	1	Turn button assembly†
2	B54810	1	Inside hub and plate assembly
3	B54187	2	Clamp stud
4	B54806	1	Non-keyed sleeve assembly
5	B54172	1	Chassis cover
6	B54820	1	Retractor assembly without catchplate
7	A54867	1	Key release cam assembly
8	B54808	1	Non-keyed sleeve assembly
9	B54801	1	Outside hub and plate assembly
10	B54163	2	Chassis screw

† Specify finish.

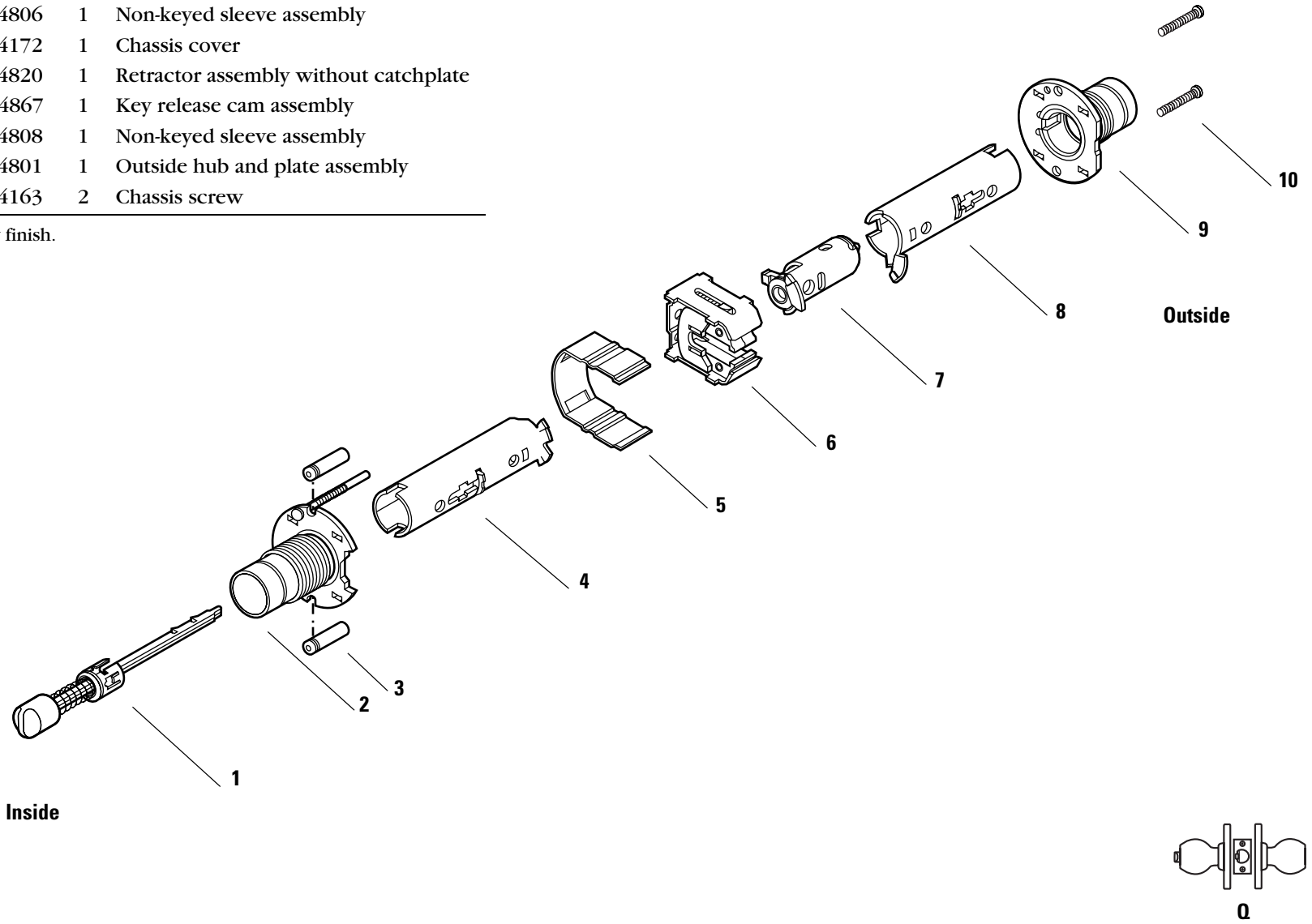
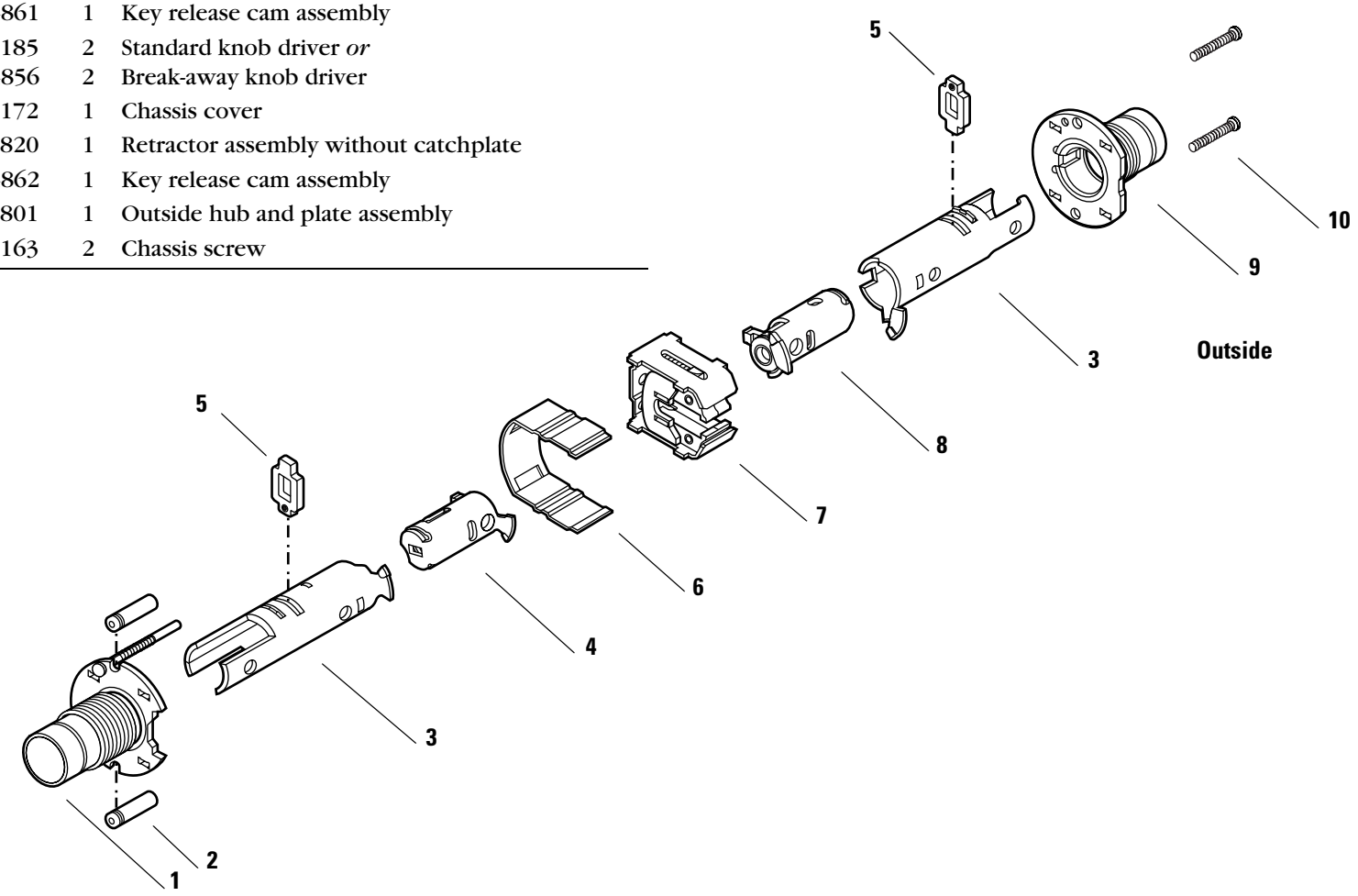


Figure 2.24 Q function exploded diagram

RD FUNCTION CHASSIS—SPECIAL LOCK

Item	Part No.	Qty.	Description
1	B54810	1	Inside hub and plate assembly
2	B54187	2	Clamp stud
3	B54807	2	Keyed sleeve assembly
4	A54861	1	Key release cam assembly
5	B54185	2	Standard knob driver *or*
not shown	A54856	2	Break-away knob driver
6	B54172	1	Chassis cover
7	B54820	1	Retractor assembly without catchplate
8	A54862	1	Key release cam assembly
9	B54801	1	Outside hub and plate assembly
10	B54163	2	Chassis screw



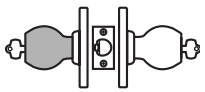
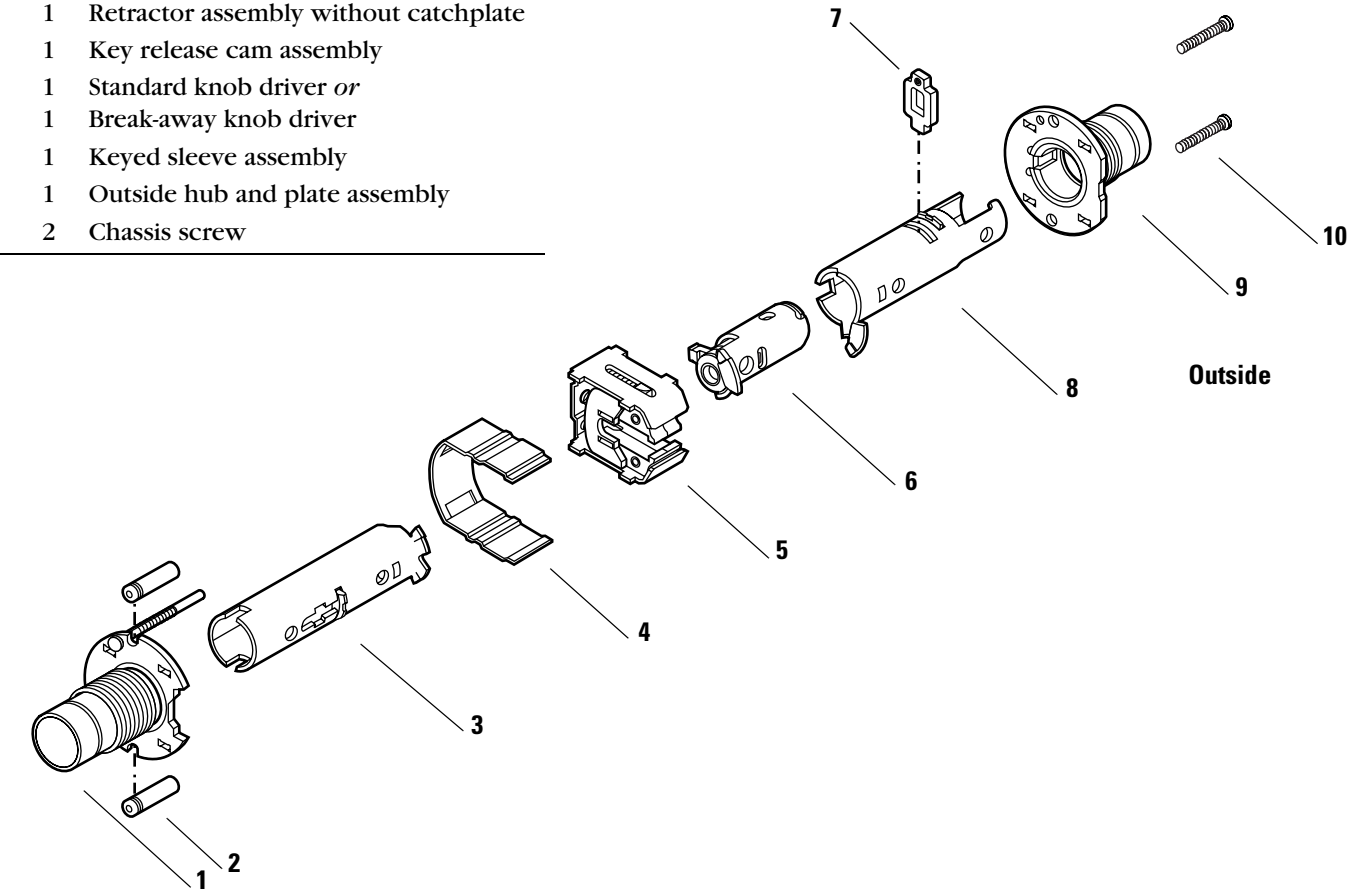


Figure 2.25 RD function exploded diagram

RH FUNCTION CHASSIS—SPECIAL LOCK

Item	Part No.	Qty.	Description
1	B54810	1	Inside hub and plate assembly
2	B54187	2	Clamp stud
3	B54806	1	Non-keyed sleeve assembly
4	B54172	1	Chassis cover
5	B54820	1	Retractor assembly without catchplate
6	A54862	1	Key release cam assembly
7	B54185	1	Standard knob driver *or*
not shown	A54856	1	Break-away knob driver
8	B54836	1	Keyed sleeve assembly
9	B54801	1	Outside hub and plate assembly
10	B54163	2	Chassis screw



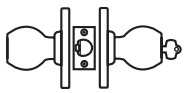
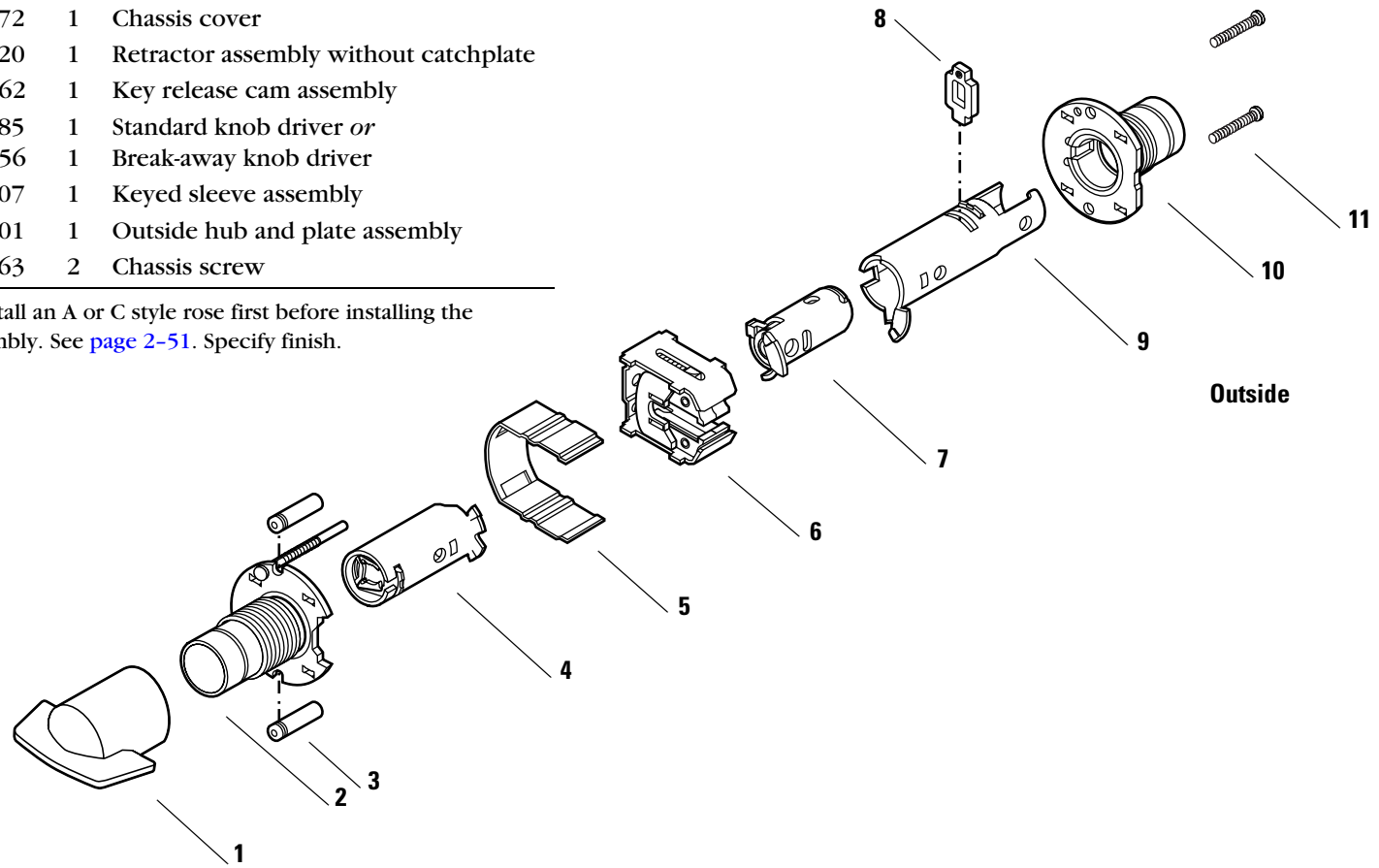


Figure 2.26 RH function exploded diagram

RZ FUNCTION CHASSIS—CLOSET OR STOREROOM LOCK

Item	Part No.	Qty.	Description
1	A54736	1	Turn blade assembly for Z function†
2	B54810	1	Inside hub and plate assembly
3	B54187	2	Clamp stud
4	A54835	1	Non-keyed sleeve assembly
5	B54172	1	Chassis cover
6	B54820	1	Retractor assembly without catchplate
7	A54862	1	Key release cam assembly
8	B54185	1	Standard knob driver *or*
not shown	A54856	1	Break-away knob driver
9	B54807	1	Keyed sleeve assembly
10	B54801	1	Outside hub and plate assembly
11	B54163	2	Chassis screw

† You need to install an A or C style rose first before installing the turn blade assembly. See page 2–51. Specify finish.



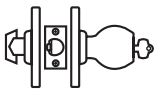
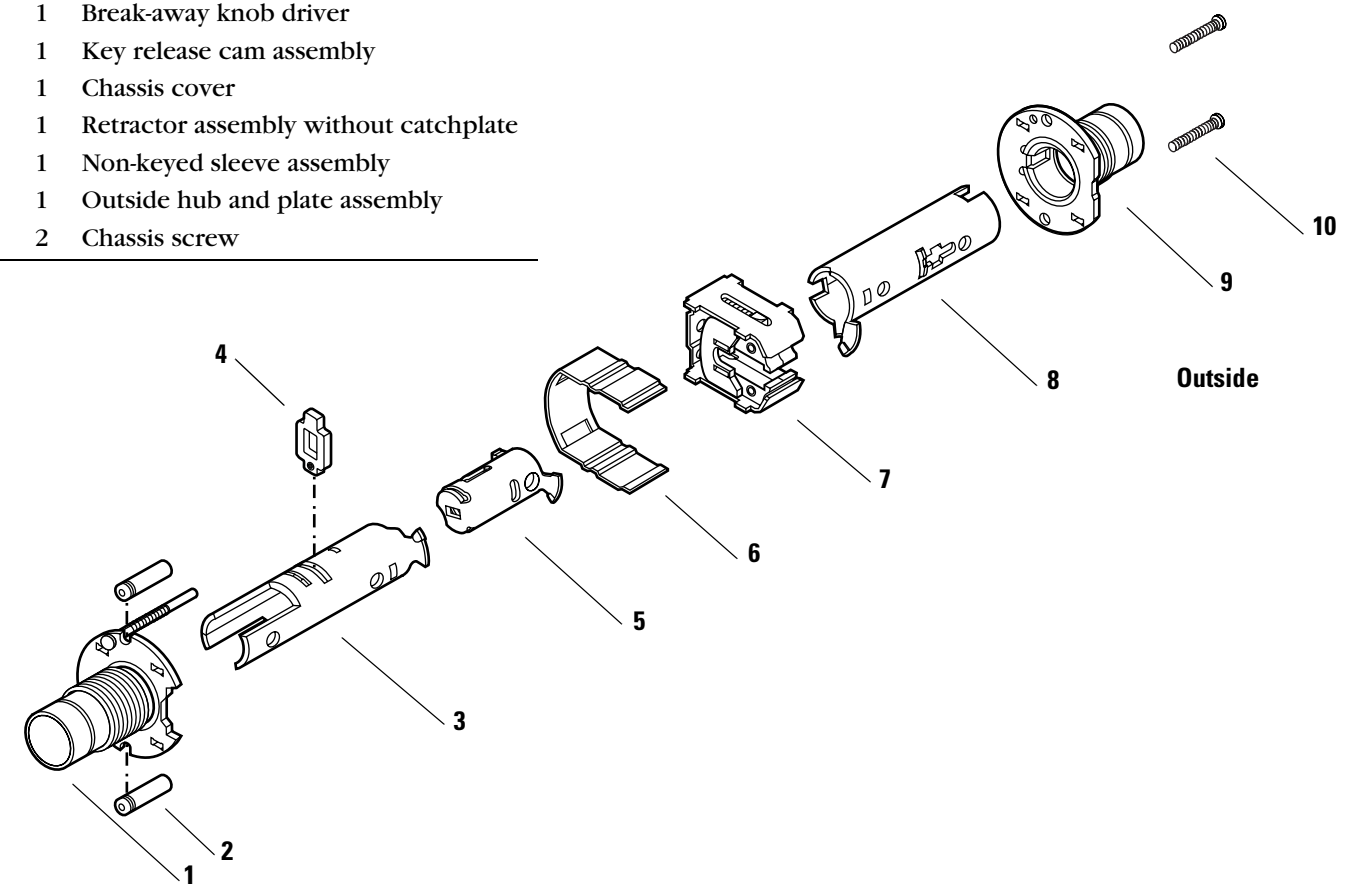

RZ

Figure2.27 RZ function exploded diagram

XD FUNCTION CHASSIS—SPECIAL LOCK

Item	Part No.	Qty.	Description
1	B54810	1	Inside hub and plate assembly
2	B54187	2	Clamp stud
3	B54807	1	Keyed sleeve assembly
4	B54185	1	Standard knob driver *or*
not shown	A54856	1	Break-away knob driver
5	A54861	1	Key release cam assembly
6	B54172	1	Chassis cover
7	B54820	1	Retractor assembly without catchplate
8	B54808	1	Non-keyed sleeve assembly
9	B54801	1	Outside hub and plate assembly
10	B54163	2	Chassis screw



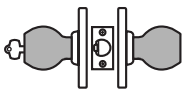
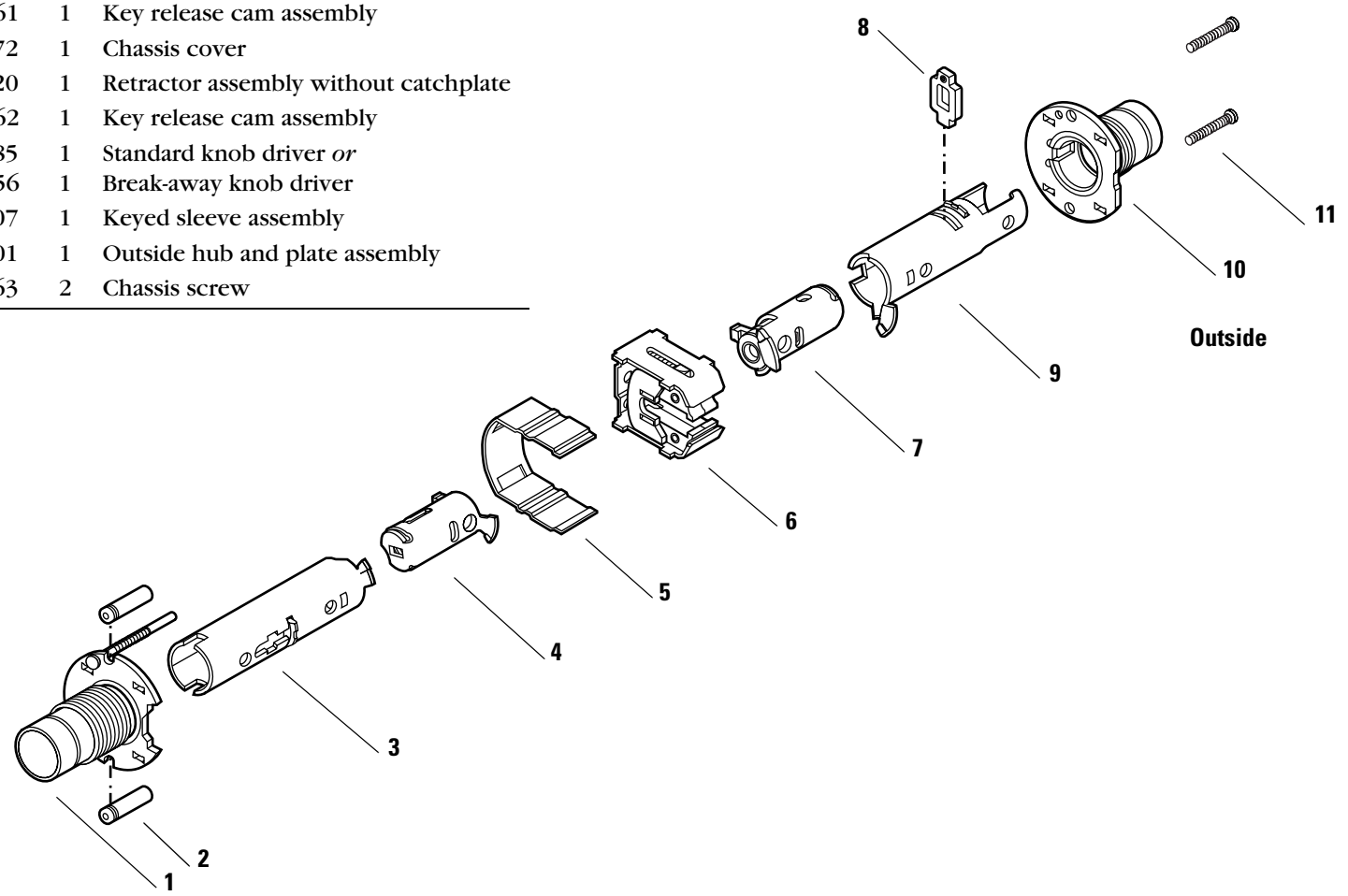
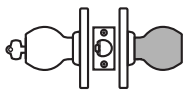


Figure 2.28 XD function exploded diagram

XR FUNCTION CHASSIS—SPECIAL LOCK

Item	Part No.	Qty.	Description
1	B54810	1	Inside hub and plate assembly
2	B54187	2	Clamp stud
3	B54808	1	Non-keyed sleeve assembly
4	A54861	1	Key release cam assembly
5	B54172	1	Chassis cover
6	B54820	1	Retractor assembly without catchplate
7	A54862	1	Key release cam assembly
8	B54185	1	Standard knob driver *or*
not shown	A54856	1	Break-away knob driver
9	B54807	1	Keyed sleeve assembly
10	B54801	1	Outside hub and plate assembly
11	B54163	2	Chassis screw





XR

Figure 2.29 XR function exploded diagram

YD FUNCTION CHASSIS—EXIT LOCK

Item	Part No.	Qty.	Description
1	B54810	1	Inside hub and plate assembly
2	B54187	2	Clamp stud
3	B54807	1	Keyed sleeve assembly
4	B54185	1	Standard knob driver *or*
not shown	A54856	1	Break-away knob driver
5	A54861	1	Key release cam assembly
6	B54172	1	Chassis cover
7	B54820	1	Retractor assembly without catchplate
8	B54809	1	Outside hub and plate assembly
9	B54163	2	Chassis screw
10	A54717	1	Outside convex rose for Y function†

† A54717 is the only available outside rose for this function. Specify finish.

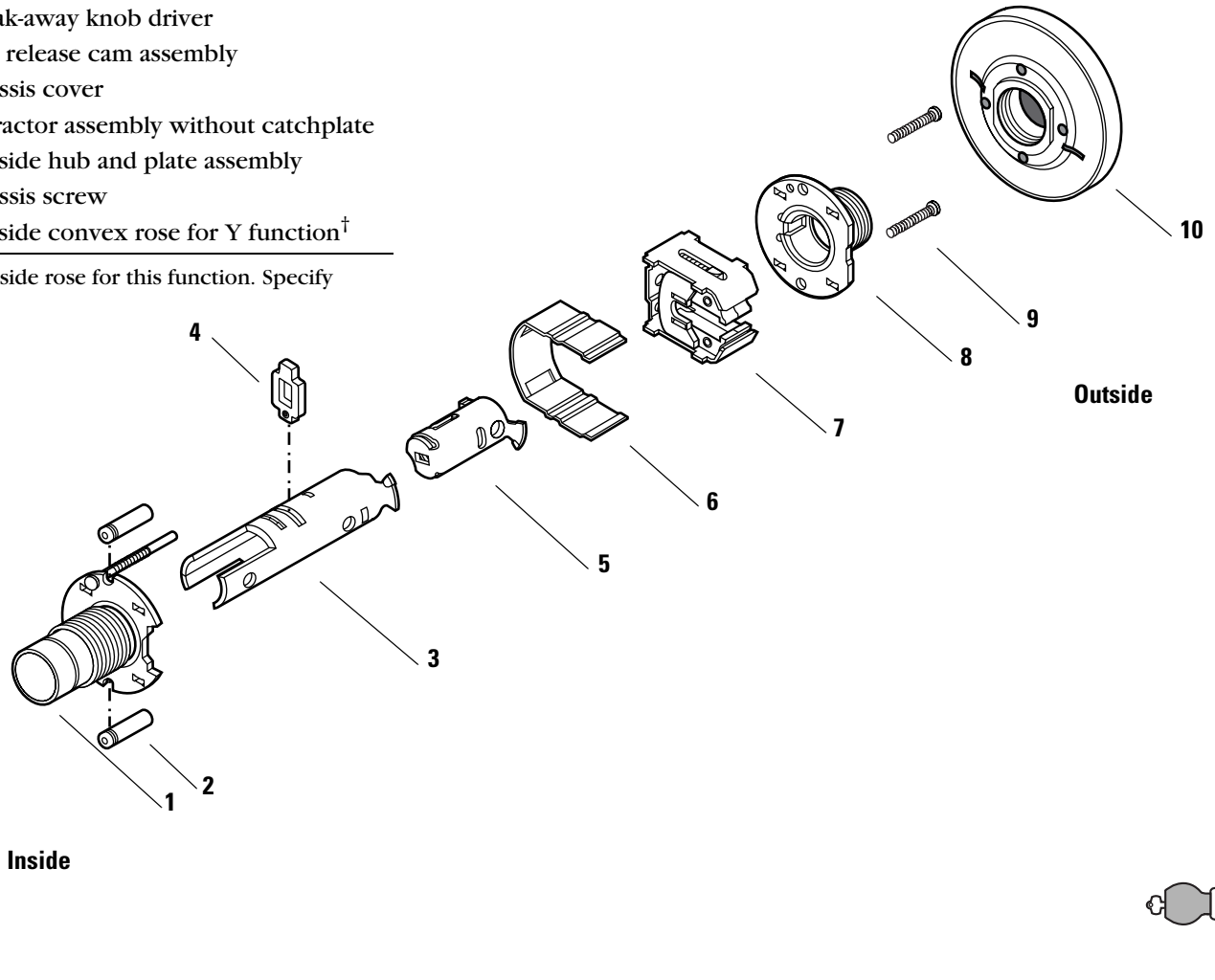


Figure 2.30 YD function exploded diagram

YR FUNCTION CHASSIS—SPECIAL LOCK

Item	Part No.	Qty.	Description
1	B54810	1	Inside hub and plate assembly
2	B54187	2	Clamp stud
3	B54807	1	Keyed sleeve assembly
4	B54185	1	Standard knob driver *or*
not shown	A54856	1	Break-away knob driver
5	A54862	1	Key release cam assembly
6	B54172	1	Chassis cover
7	B54820	1	Retractor assembly without catchplate
8	B54809	1	Outside hub and plate assembly
9	B54163	2	Chassis screw
10	A54717	1	Outside rose for Y function†

† A54717 is the only available outside rose for this function. Specify finish.

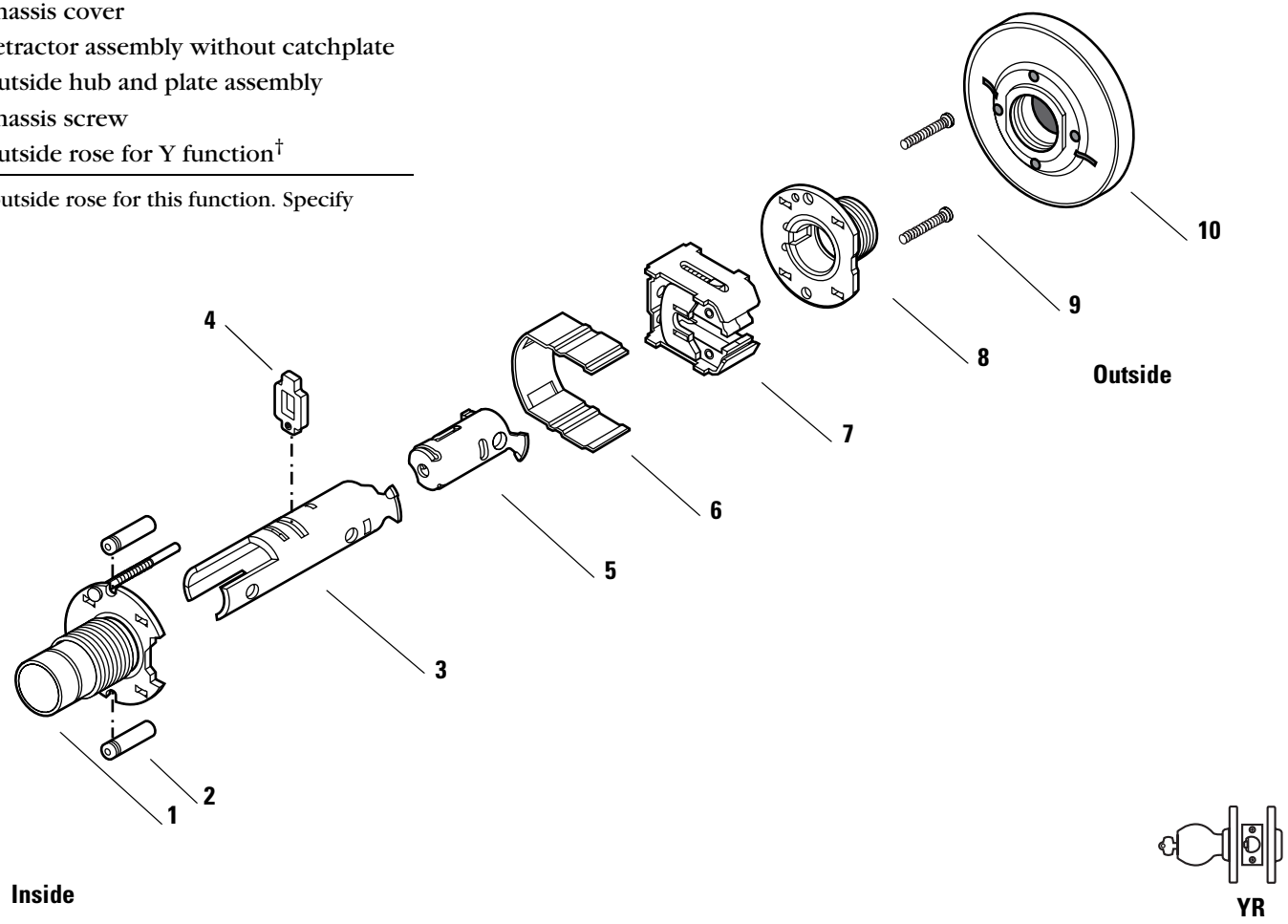


Figure 2.31 YR function exploded diagram

Z FUNCTION CHASSIS—CLOSET LOCK

Item	Part No.	Qty.	Description
1	A54736	1	Turn blade assembly for Z function†
2	A54810	1	Inside hub and plate assembly
3	B54187	2	Clamp stud
4	A54835	1	Non-keyed sleeve assembly
5	B54172	1	Chassis cover
6	B54820	1	Retractor assembly without catchplate
7	B54806	1	Non-keyed sleeve assembly
8	B54801	1	Outside hub and plate assembly
9	B54163	2	Chassis screw

† You need to install an A or C style rose first before installing the turn blade assembly. See page 2–51. Specify finish.

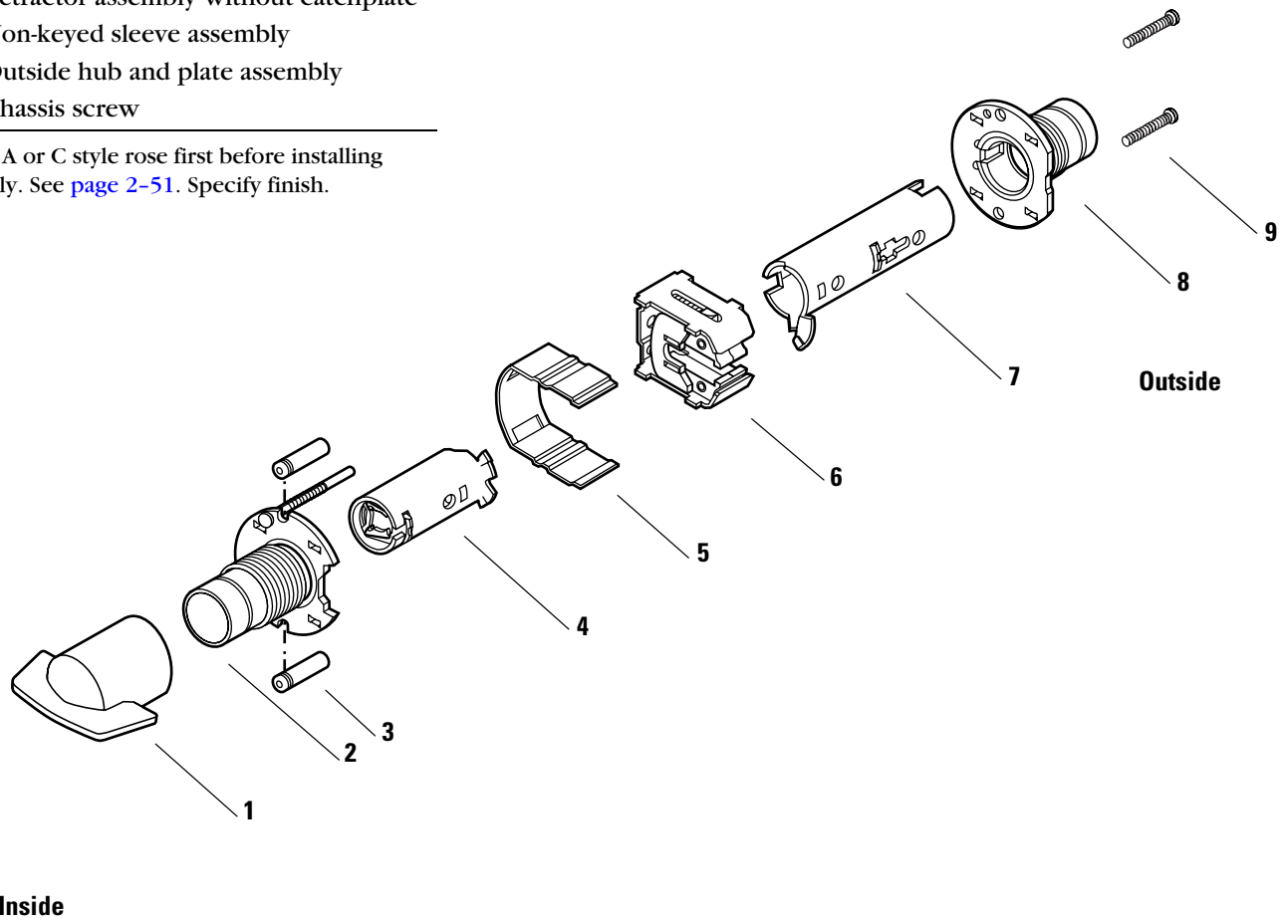


Figure 2.32 Z function exploded diagram

ELECTRIFIED FUNCTIONS
DEL FUNCTION CHASSIS—ELECTRICALLY LOCKED FAIL SAFE

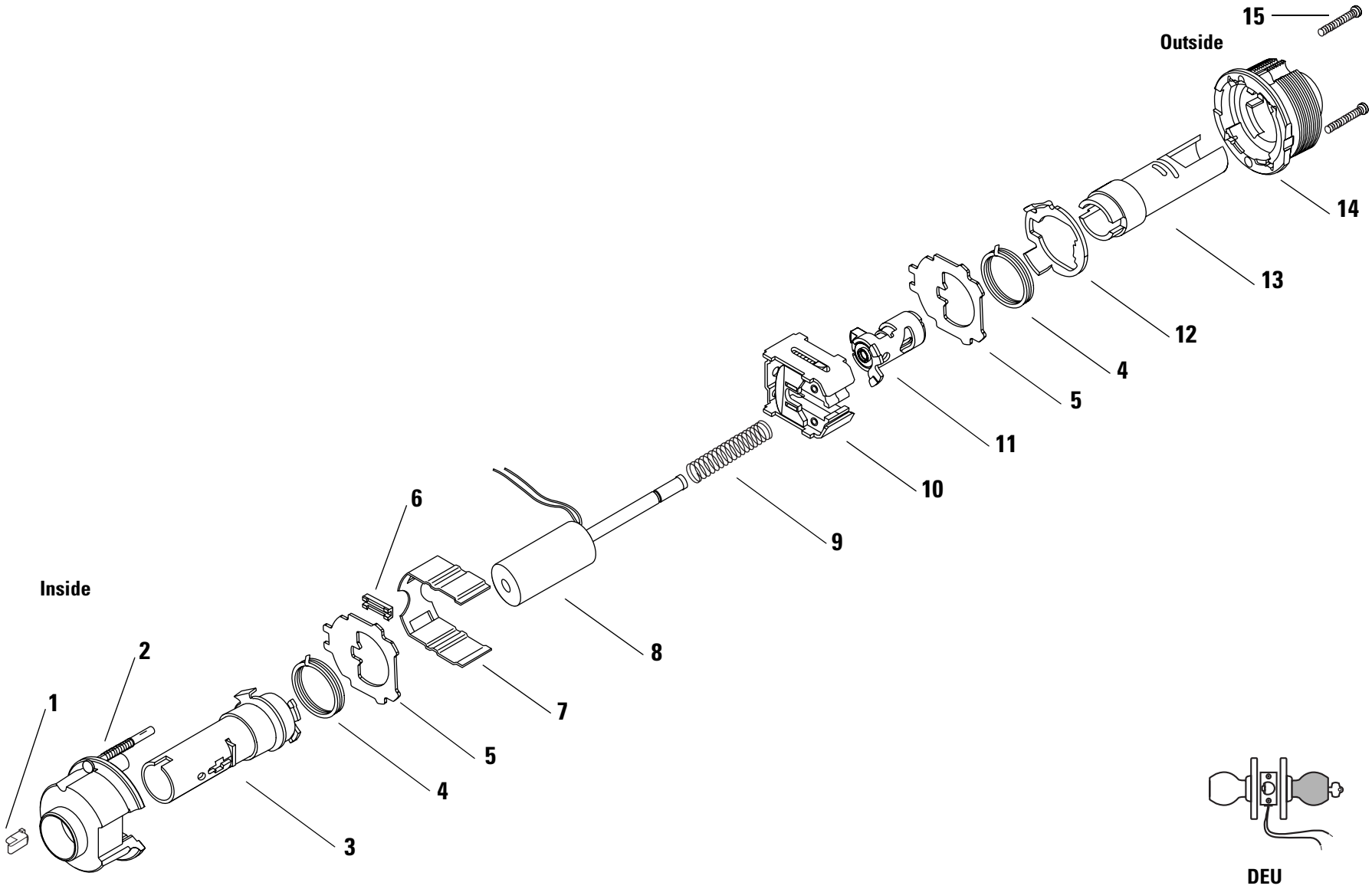


Figure 2.33 DEL function exploded diagram

DEL chassis parts list

Refer to Figure 2.33 and the table below to find the part you need.

Item	Part no.	Qty.	Description
1	B60207	1	Switch plunger
2	A55685	1	Inside hub assembly *or*
not shown	C60206	1	Inside hub assembly for RQE
3	B60418	1	Modified drive collar & non-keyed sleeve assembly
4	B60420	2	Knob return spring
5	B55504	2	Thrust plate
6	B60470	1	Wire protector cap
7	B54172	1	Chassis cover
not shown	A60227	1	ID label (affixed to the chassis cover)
8	C60232	1	Solenoid
9	C60224	1	Solenoid spring
10	B60463	1	Chassis frame and retractor assembly
11	A60541	1	Key release cam assembly
12	C55515	1	Spring drive plate
13	A60424	1	Keyed sleeve assembly
14	D55571	1	Outside hub *or*
not shown	D56003	1	Outside hub, lost motion
15	A55505	2	Chassis screw

DEU FUNCTION CHASSIS—ELECTRICALLY UNLOCKED FAIL SECURE

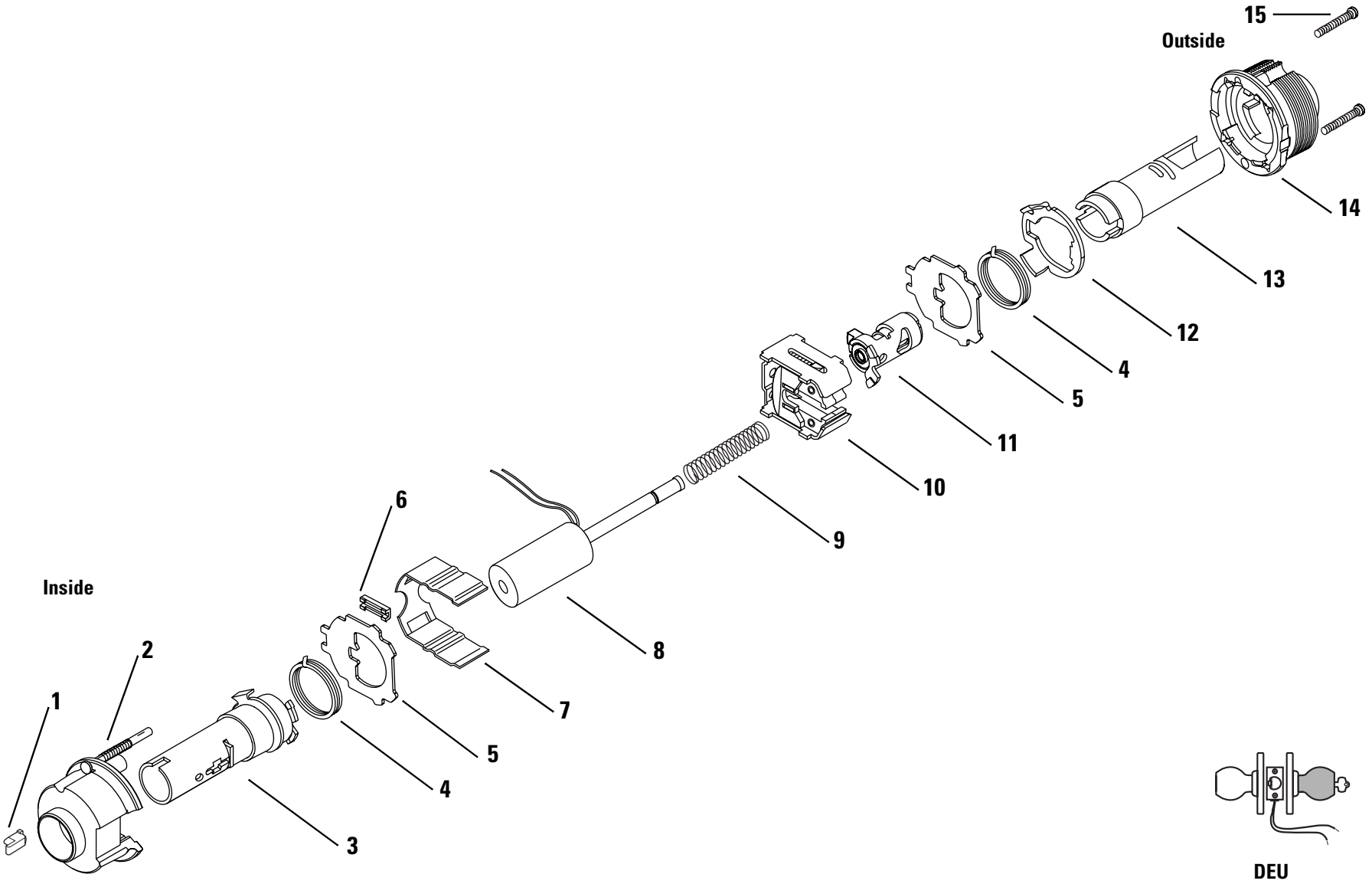


Figure 2.34 DEU function exploded diagram

DEU chassis parts list

Refer to Figure 2.34 and the table below to find the part you need.

Item	Part no.	Qty.	Description
1	B60207	1	Switch plunger
2	A55685	1	Inside hub assembly *or*
not shown	C60206	1	Inside hub assembly for RQE
3	B60418	1	Modified drive collar & non-keyed sleeve assembly
4	B60420	2	Knob return spring
5	B55504	2	Thrust plate
6	B60470	1	Wire protector cap
7	B54172	1	Chassis cover
not shown	A60227	1	ID label (affixed to the chassis cover)
8	C60231	1	Solenoid
9	C60223	1	Solenoid spring
10	B60463	1	Chassis frame and retractor assembly
11	A60531	1	Key release cam assembly
12	C55515	1	Spring drive plate
13	A60424	1	Keyed sleeve assembly
14	D55571	1	Outside hub *or*
not shown	D56003	1	Outside hub, lost motion
15	A55505	2	Chassis screw

FUNCTION CONVERSION

If you want to convert the function of an existing 8K Lock, use the following tables to determine the internal parts that you need. Unless otherwise noted, a quantity of one is used for each part.

Compare the column of the function you currently have with the column of the function you need to determine the new parts necessary for conversion.

Standard functions

Part No.	Description	AB	C	D	E	G	H/HJ	L	N	NX	P	R	S	T	W	Y
A54745	Button release assembly†							■								
B54742	Turn button assembly†	■														
B54744	Push button assembly†						■	■			■			■		
B54748	Slotted button assembly†				■											
B54810	Inside hub & plate assembly	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
B54801	Outside hub & plate assembly	■	■	■	■	■		■	■	■	■	■	■	■	■	
B54809	Outside hub & plate assembly															■
A54717	Outside convex rose for Y function†															■
B54806	Non-keyed sleeve assembly	■		■	■		■	■	■‡	■	■	■		■		
B54808	Non-keyed sleeve assembly							■		■	■					
B54807	Keyed sleeve assembly	■	■‡	■	■	■‡						■	■‡	■	■‡	
B54832	Keyed sleeve and hub assembly						■									
B54185 A54856	Knob driver *or* Breakaway driver	■	■‡	■	■	■‡						■	■‡	■	■‡	
B54172	Chassis cover	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
B54822	Retractor assembly with long catchplate	■			■		■	■			■			■		
B54820	Retractor assembly without catchplate		■	■		■			■	■		■	■		■	■
A54860	Key release cam assembly	■	■		■			■								
A54861	Key release cam assembly			■											■‡	
A54862	Key release cam assembly											■	■‡	■		
A54863	Key release cam assembly		■													
A54864	Key release cam assembly					■‡										
A54865	Key release cam assembly						■									
A54867	Key release cam assembly									■	■					
B54749	Locking bar assembly for NX function									■						
A54190	Locking bar		■													
A54195	Locking bar					■										
B54187	Clamp stud (quantity 2)	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
B54163	Chassis screw (quantity 2)	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■

† Specify finish.
‡ Requires two.

Non-standard functions

Part No.	Description	A	B	DR	DZ	EA	LL	M	Q	RD	RH	RZ	XD	XR	YD	YR	Z
A54736	Turn blade assembly for Z function†				■							■					■
B54742	Turn button assembly†	■					■	■‡	■								
B54744	Push button assembly†		■				■										
B54748	Slotted button assembly†					■											
B54810	Inside hub and side plate assembly	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
B54801	Outside hub & plate assembly	■	■	■	■	■	■	■	■	■	■	■	■	■			■
B54809	Outside hub & plate assembly														■	■	
A54717	Outside convex rose for Y function†														■	■	
B54806	Non-keyed sleeve assembly	■	■			■	■		■		■						■
B54808	Non-keyed sleeve assembly							■‡	■				■	■			
A54835	Non-keyed sleeve assembly				■							■					■
B54836	Keyed sleeve assembly										■						
B54807	Keyed sleeve assembly	■	■	■‡	■	■	■			■‡			■	■	■	■	
B54185 A54856	Knob driver *or* Breakaway driver	■	■	■‡	■	■	■			■‡	■	■	■	■	■	■	
B54172	Chassis cover	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
A54204	Bridge bar							■									
B54820	Retractor assembly without catchplate	■		■	■			■	■	■	■	■	■	■	■	■	■
B54821	Retractor assembly with short catchplate		■			■											
B54822	Retractor assembly long catchplate						■										
A54860	Key release cam assembly	■	■			■	■										
A54861	Key release cam assembly			■	■								■	■	■		
A54862	Key release cam assembly			■						■	■	■		■		■	
A54866	Key release cam assembly							■‡									
A54867	Key release cam assembly								■								
B54187	Clamp stud (quantity 2)	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
B54163	Chassis screw (quantity 2)	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■

† Specify finish.
‡ Requires two.

Electrical functions

Part No.	Description	DEL	DEU
B60207	Switch plunger	■	■
A55685	Inside hub assembly *or*	■	■
C60206	Inside hub assembly for RQE	■	■
B60418	Modified drive collar & non-keyed sleeve assembly	■	■
B60420	Knob return spring	■	■
B55504	Thrust plate†	■	■
B60470	Wire protector cap	■	■
B54172	Chassis cover	■	■
A60227	ID label (affixed to the chassis cover)	■	■
C60232	Solenoid	■	
C60231	Solenoid		■
C60224	Solenoid spring	■	
C60223	Solenoid spring		■
B60463	Chassis frame and retractor assembly	■	■
A60541	Key release cam assembly		■
A60531	Key release cam assembly	■	
C55515	Spring drive plate	■	■
A60424	Keyed sleeve assembly	■	■
D55571	Outside hub *or*	■	■
D56003	Outside hub, lost motion	■	■
A55505	Chassis screw†	■	■

† Requires two.

TRIM PARTS

Standard strikes and strike boxes

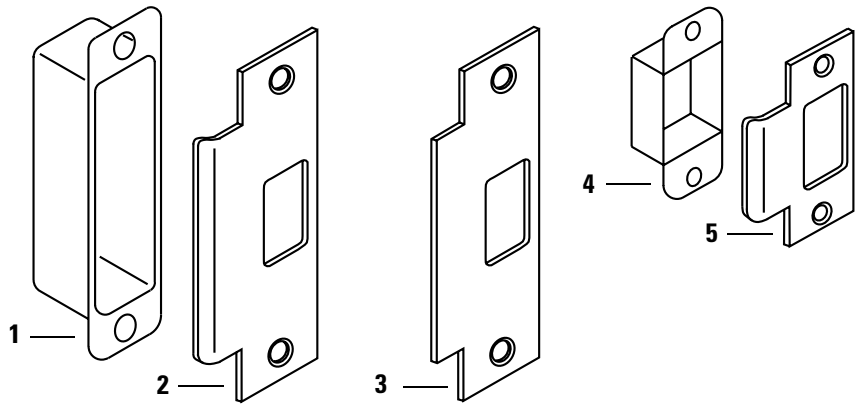


Figure 2.35 Standard strikes and strike boxes

Standard strikes and strike boxes parts list

Item	Nomen–clature	Part no.	Description
1	30HS4	B34380	ANSI Plastic strike box
2	8KS3†	B25641	ANSI Strike
3	8KS3-7/8†	C63016	ANSI 7/8″ flat lip strike
4	8KS1	B25640	Standard steel strike box
5	8KS2‡	B25639	Standard strike package

† Use the nomenclature to order the ANSI strike package, which includes the strike, two A25359 screws, and two A18724 screws. Specify finish.

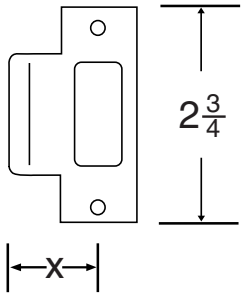
‡ Use the nomenclature to order the standard strike package, which includes the strike and four A25359 screws. Specify finish.

Non-standard strikes

Non-standard strikes parts list

Part no.†	X dimension
B54063	7/8″
B54064	1 ″
B54065	1 1/8″
B54066	1 1/2″
B54067	1 3/4″
B54068	2″
B54069	2 1/4″
B54070	2 1/2″
B54071	3″
B54072	4″

† Specify finish.



The measurement is taken from the edge of the lip to the center of the screw holes.

Figure 2.36 Understanding strike lip measurement

Lead-lined parts

The lead-lined option is available for new lock orders only. Because individual lead-lined parts are not field-serviceable, they are not available to order for replacement parts. In the following graphic, the shaded portions indicate the lead shields.

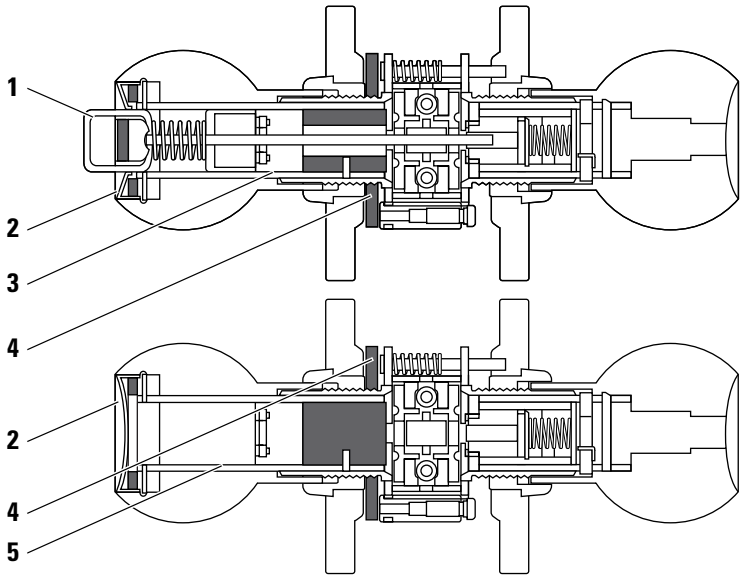


Figure 2.37 Cross-section of 8K locks showing lead-lined parts

Lead-lined parts list

Item	Description
1	Button assembly with shield
2	Knob with face shield
3	Inside knob sleeve with shield (for button knobs)
4	Rose shield
5	Inside knob sleeve with shield (for plain or keyed knobs)

Roses and rose rings

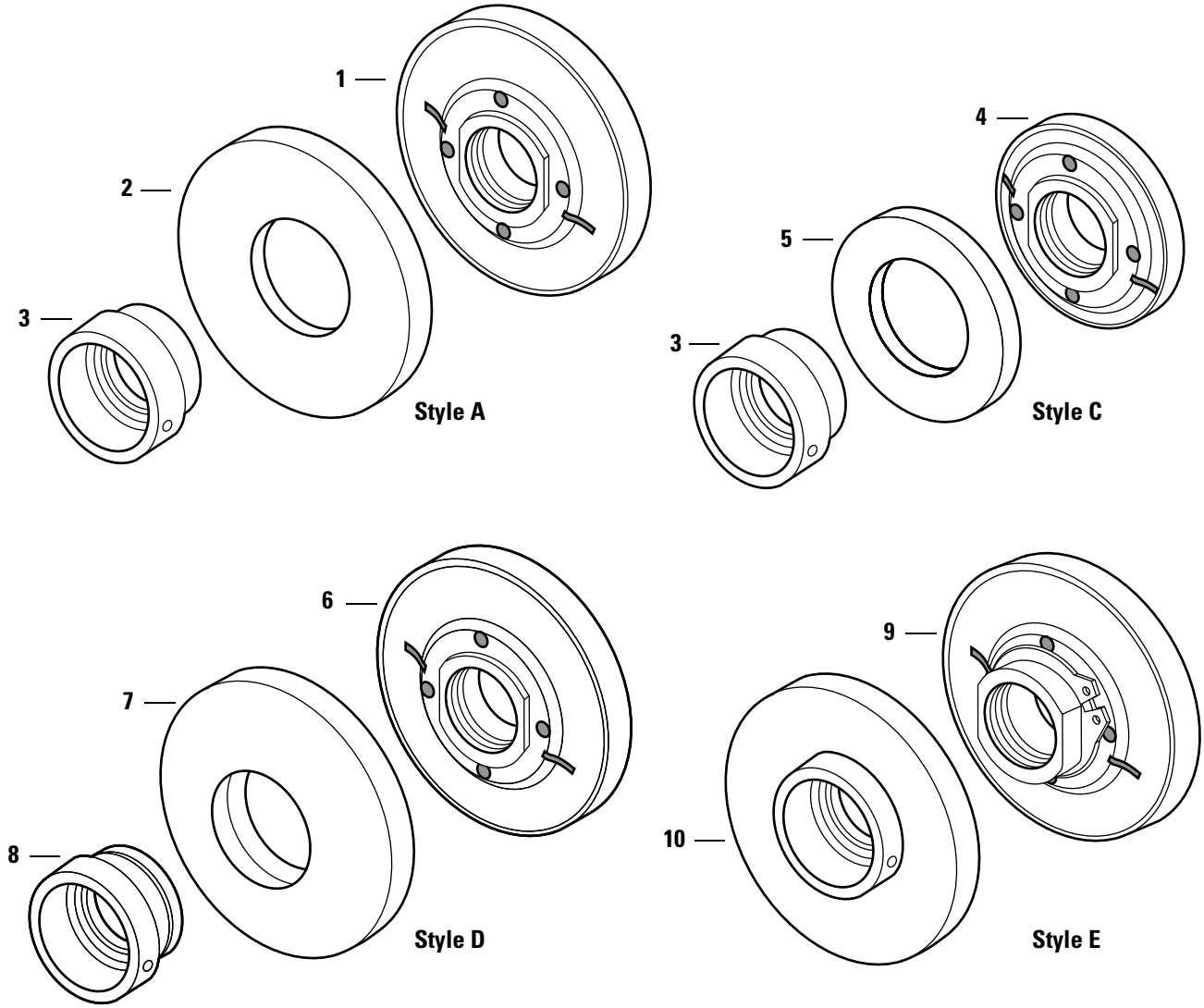


Figure 2.38 Roses and rose rings

Roses and rose rings parts list

Item	Style	Part no.	Qty.	Description
1	A	B54702	1	Outside rose assembly—large concave
2	A	B54700	1	Inside rose assembly—large concave
3	A & C	A54720	1	Inside rose ring—large concave
4	C	B54713	1	Outside rose assembly—small concave
5	C	B54712	1	Inside rose assembly—small concave
6	D	A54716	1	Outside rose assembly—small concave
7	D	B54715	1	Inside rose assembly—large convex
8	D	A54714	1	Inside rose ring—large convex
9	E	A54723	1	Outside rose assembly—thin door
10	E	A54722	1	Inside rose assembly—thin door

Roses, rose liners, and rose spacers for electrified functions

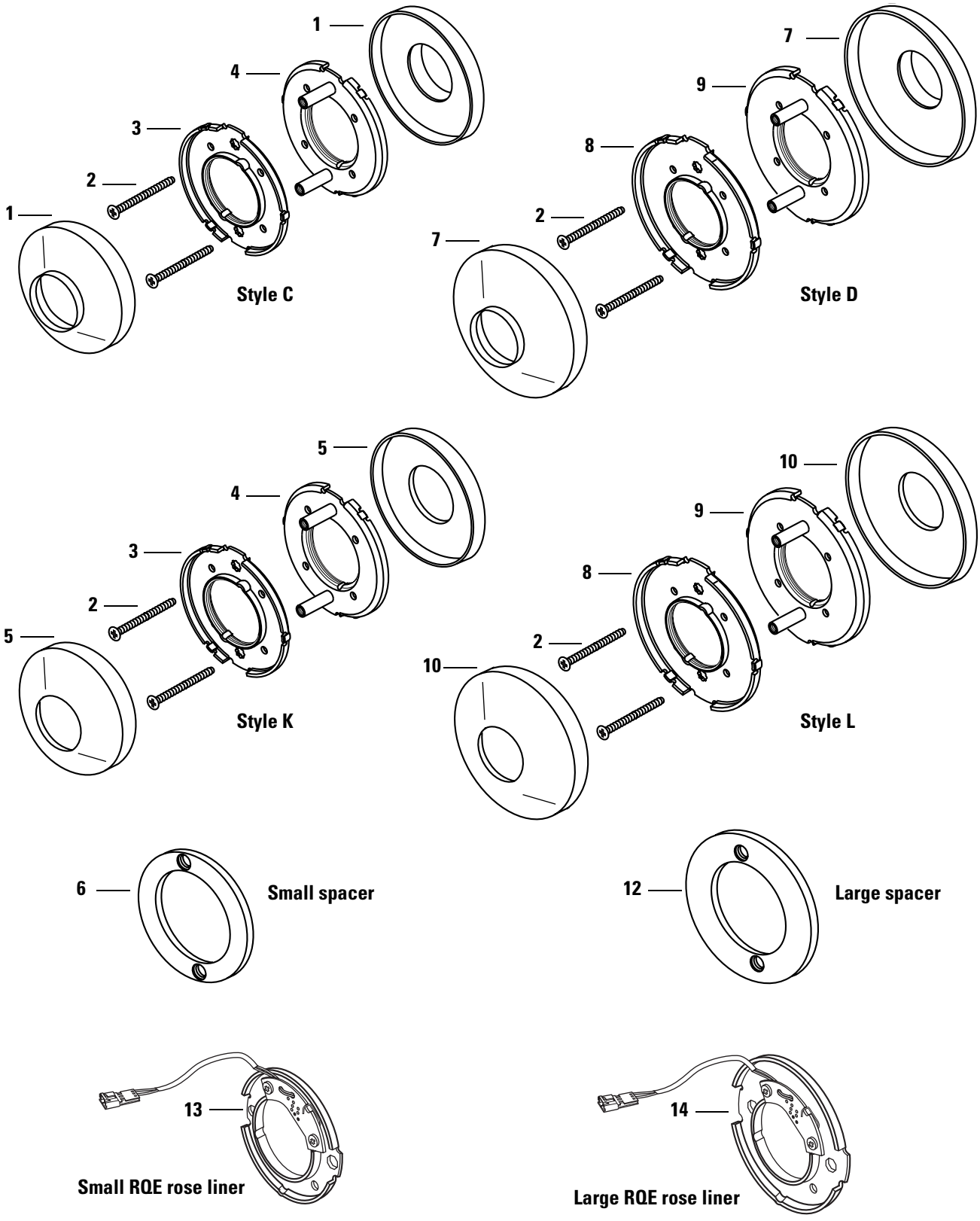


Figure 2.39 Roses, rose liners, and rose spacers

Roses, rose liners, and rose spacers parts list

Item	Style	Part no.	Description
1	C	B55015†	Small rose
2	C, D, K, L	A55557	Through-bolt screws
3	C & K	C55556	Small inside rose liner
4	C & K	B55603	Small outside rose liner
5	K	B55018†	Small rose
6	C & K	B55043‡	Small rose spacer
7	N/A	A55711	Y function outside rose assembly
8	D	B55007†	Large rose
9	D & L	C55555	Large inside rose liner
10	D & L	B55602	Large outside rose liner
11	L	B55017†	Large rose
12	D & L	B55044‡	Large rose spacer
13	N/A	B61049	Small RQE rose liner
14	N/A	B60221	Large RQE rose liner

† Inside and outside are the same.
‡ Two (2) spacers are required for 1 3/8" thick doors.

Rose and rose liner assemblies parts list

Item	Style	Part no.	Description
1 & 3	C	B55609	Small inside rose and liner assembly
1 & 4	C	B55605	Small outside rose and liner assembly
3 & 5	K	B55607	Small inside rose and liner assembly
4 & 5	K	B55604	Small outside rose and liner assembly
8 & 9	D	B55608	Large inside rose and liner assembly
8 & 10	D	B55601	Large outside rose and liner assembly
9 & 11	L	B55606	Large inside rose and liner assembly
10 & 11	L	B55600	Large outside rose and liner assembly

Knobs and components

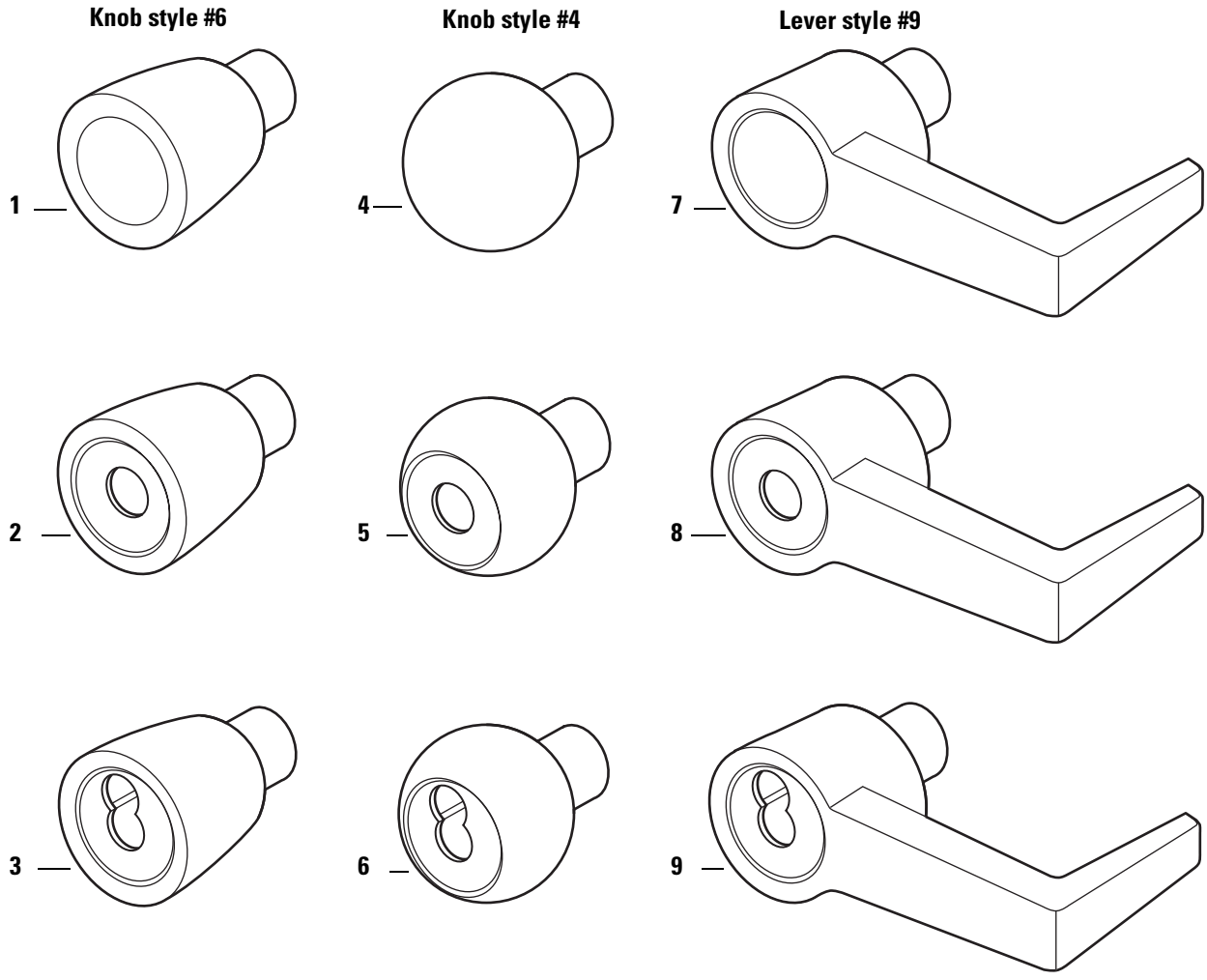


Figure 2.40 Knobs

Knobs parts list

Style	Item	Description	Standard	Tactile	Knurled
	1	Plain tulip knob	B54705	N/A	B54756
6	2	Button tulip knob	B54706	N/A	B54757
	3	Keyed tulip knob	B54703	N/A	B54755
	4	Plain round knob	B54707	B54731	N/A
4	5	Button round knob	B54708	B54732	N/A
	6	Keyed round knob	B54704	B54730	N/A
	7	Plain lever handle†	B54778	N/A	N/A
9	8	Button lever handle†	B54779	N/A	N/A
	9	Keyed lever handle†	B54777	N/A	N/A

† Lever handles are not available for electrified functions.

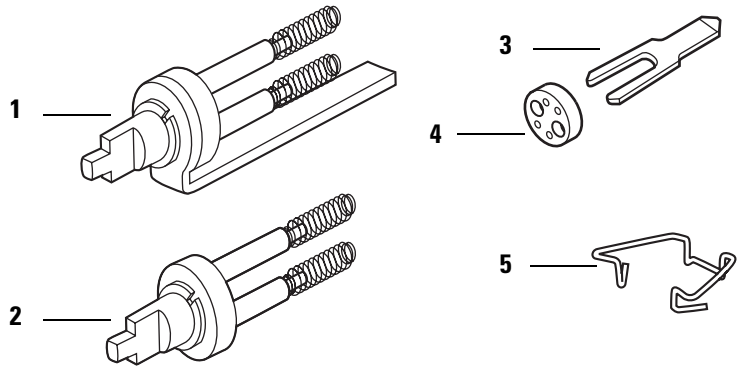


Figure 2.41 Standard knob components

Knob components parts list

Item	Part no.	Qty.	Description
1	A55697	1	"H" throw member
2	A55696	1	"HJ" throw member
3	B54200	1†	Seven pin throw member‡
4	1882120	50	Six pin spacer
5	B54182	1	Lever keeper spring

† Single-keyed locks require one (1); double-keyed locks require two (2).

‡ For information about cores and keys, see the *Core and Key Service Manual*.

Knob projections from door

The following illustrates and lists the distance that the different knobs project from a door.

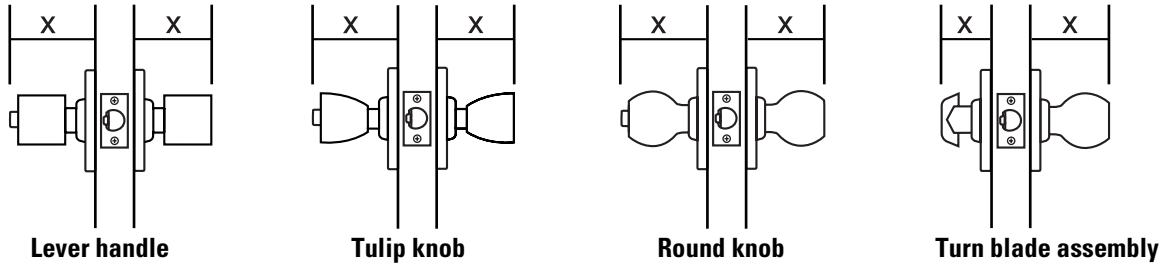


Figure 2.42 Knob projections

Knob projection table

Type	Style	Projection from door (x)
Plain lever handle	9	3″
Keyed lever handle		3″
Button lever handle		3 1/4″
Plain tulip knob	6	3″
Keyed tulip knob		3″
Button tulip knob		3 1/4″
Plain round knob	4	3″
Keyed round knob		3″
Button round knob		3 1/4″
Turn blade assembly		2″

Dummy trim

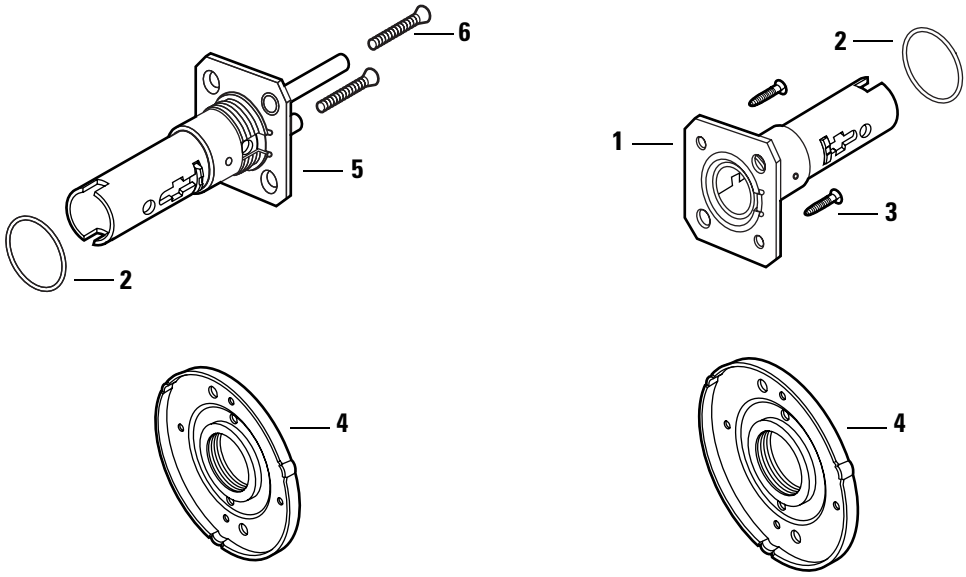


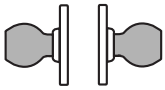
Figure 2.43 Dummy trim parts

Single dummy trim parts list



Item	Part No.	Qty.	Description
1	B54884	1	Chassis dummy trim assembly
2	A54465	1	"O" ring
3	A39217	2	#8 × 1 PFH type AB screw
4	B55051	1	Small liner and ring assembly *or*
	B55050	1	Large liner and ring assembly

Double dummy trim parts list



Item	Part No.	Qty.	Description
1	B54884	1	Chassis dummy trim assembly
2	A54465	2	"O" ring
4	B55051	2	Small liner and ring assembly *or*
	B55050	2	Large liner and ring assembly
5	B54885	1	Chassis dummy trim assembly
6	A18991	2	#8-32 × 1 1/8 Phil. FHMS screw

8W components

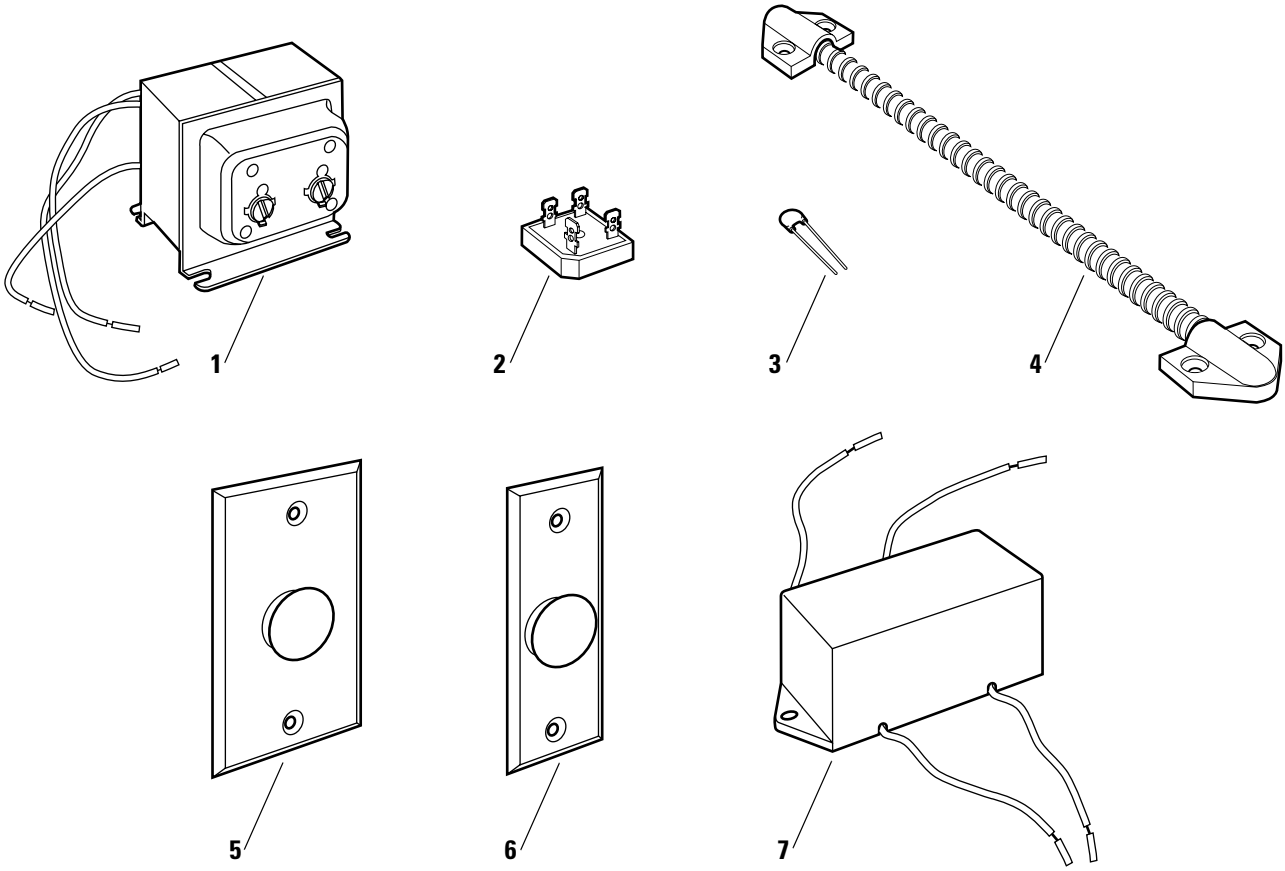


Figure 2.44 8W components

8W components parts list

Refer to Figure 2.44 and the table below to find the part you need.

Item	Nomen-clature	Description
1	8W599	Transformer
2	8WCON	AC to DC converter full wave bridge rectifier
3	8WMOV	Metal oxide varistor
4	8WDTL	Door transfer loop
5	8WBU-1-A	Standard plate for RQE switch
6	8WBU-1-N	Narrow plate for RQE switch
7	8WTCM	Temperature control module

Latches

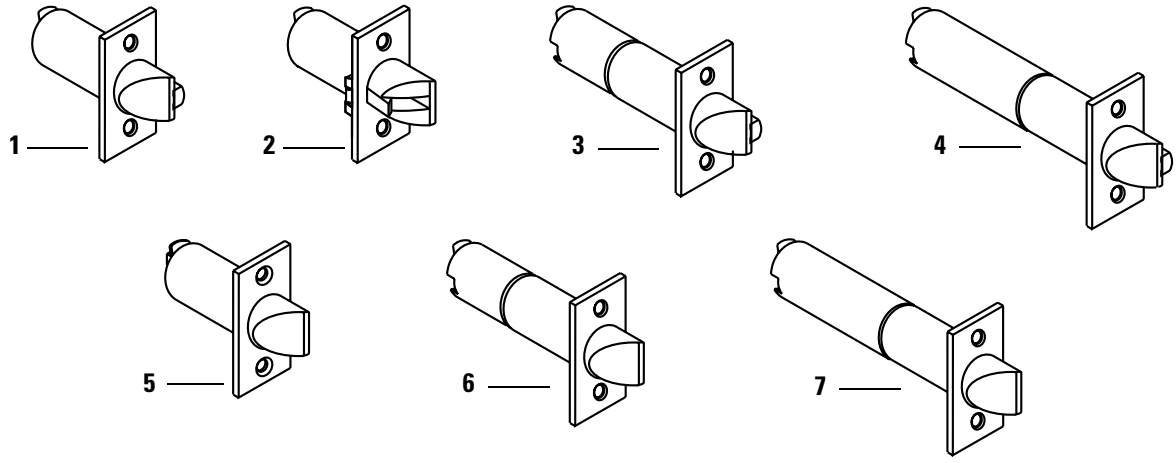


Figure 2.45 Latches

Latches parts list

Item	Latch type	Backset	Part no.	Nomen-clature†	Description
1	Deadlocking	2 3/4″	C54680	8KL3‡	Latch
2	Deadlocking	2 3/4″	A54661	8KL3-3/4‡	Latch with 3/4″ throw
3	Deadlocking	3 3/4″	C54682	8KL4‡	Latch
4	Deadlocking	5″	C54684	8KL5‡	Latch
5	Spring	2 3/4″	C54681	8KSL3‡	Latch
6	Spring	3 3/4″	C54683	8KSL4‡	Latch
7	Spring	5″	C54685	8KSL5‡	Latch

† Specify finish.
‡ Use the nomenclature to order the latch package, which includes the latch and two A25359 screws.

Installation tools

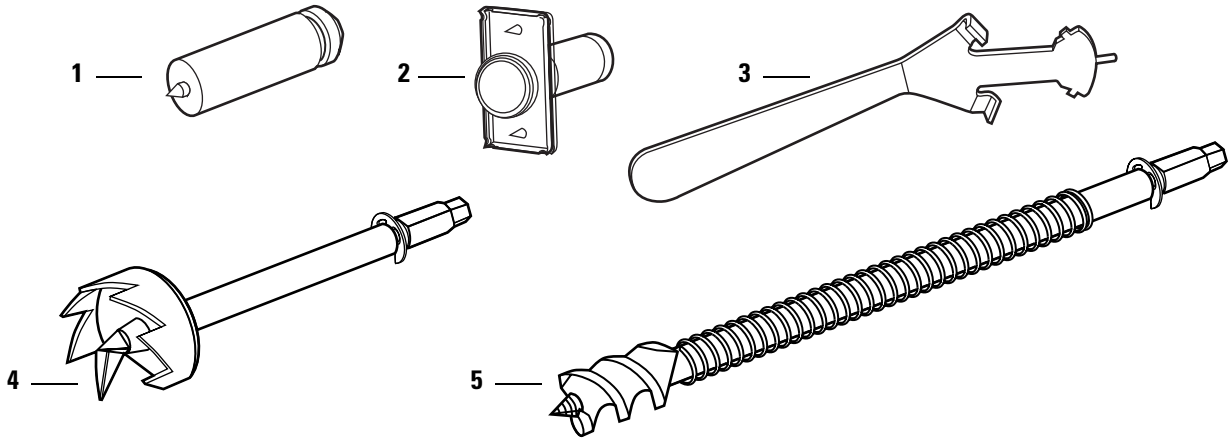


Figure 2.46 Installation tools

Installation tools parts list

Item	Nomen-clature	Part no.	Description
1	KD325	A01514	Strike plate locating pin
2	KD315	1350393	Faceplate marking chisel (1 1/8″ × 2 1/4″)
not shown	KD312	1487975	Faceplate marking chisel (1″ × 2 1/4″)
3	KD316	C54466	KD316 spanner wrench
4	KD309	A54084	2 1/8″ diameter chassis hole bit assembly†
5	KD318	A54085	1″ diameter drill bit assembly†

† Use with the boring jig.

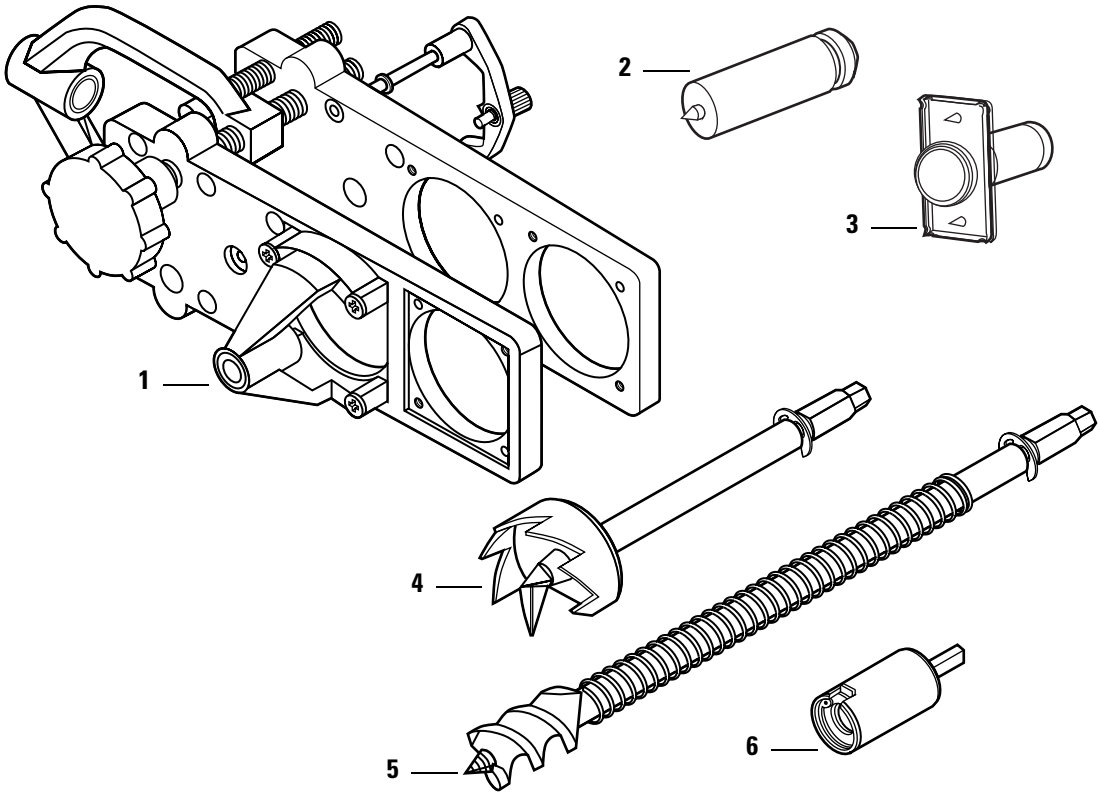


Figure 2.47 Boring jig kit

Boring jig kit parts list

Item	Nomen-clature	Part no.	Description
1	N/A	N/A	Boring jig†
2	KD325	A01514	Strike plate locating pin
3	KD315	1350393	Faceplate marking chisel (1 1/8″ × 2 1/4″)
not shown	KD312	1487975	Faceplate marking chisel (1″ × 2 1/4″)
4	KD309	A54084	2 1/8″ diameter chassis hole bit assembly
5	KD318	A54085	1″ diameter drill bit assembly
6	N/A	N/A	Adaptor for 3/8″ drill chuck†
1–6	KD304A	N/A	Boring jig kit

† Can only be ordered as part of the KD304A boring jig kit.

3 SERVICE AND MAINTENANCE

This chapter contains instructions for replacing components, servicing and maintaining components, and troubleshooting common problems.

To	See page
Replace knobs	3–3
Replace the knob driver	3–6
Replace roses	3–7
Replace button assemblies	3–10
Replace the knob keeper spring	3–12
Replace the key release cam assembly	3–13
Replace the sleeve assembly	3–16
Replace electrified function roses	3–18
Replace the RQE rose liner	3–21
Replace the solenoid	3–21
Add the RQE switch to a function	3–22
Reverse the solenoid when changing functions	3–22
Lubricate cores	3–22
Align chassis and trim	3–23
Position the locking cam for C function locks	3–24
Position the locking cam for G function locks	3–25
Position the locking cam for R, S, & T function locks	3–26
Use the emergency key for H and HJ function locks	3–28
Troubleshoot common problems	3–29

MAINTENANCE TOOLS

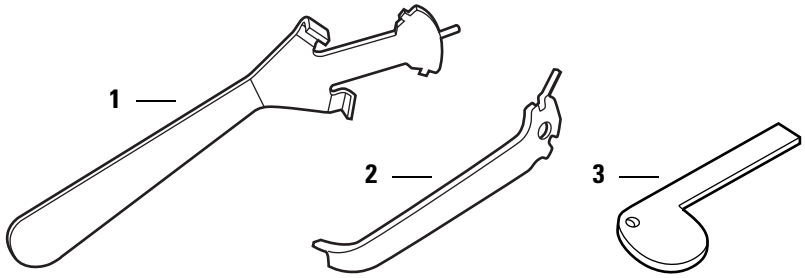


Figure 3.1 Maintenance tools

Maintenance tools parts list

Item	Nomen-clature	Part no.	Description
1	KD316	C54466	KD316 spanner wrench
2	KD317	C55506	KD317 spanner wrench
3		A25586	Emergency driver†

† For use with hotel function locks (H and HJ).

REPLACING COMPONENTS

Replacing the knob

To remove the keyed knob:

1. Insert the control key into the core and rotate the key 15 degrees to the right.
2. Remove the core and throw member from the knob.
3. Insert a flat blade screwdriver into the figure-8 core hole and into the knob keeper.
4. Press the screwdriver blade in the direction of the arrow, as shown in Figure 3.2.

   Note: You will not be able to remove the knob if the screwdriver blade is inserted too far past the keeper.

5. Slide the knob off of the sleeve.

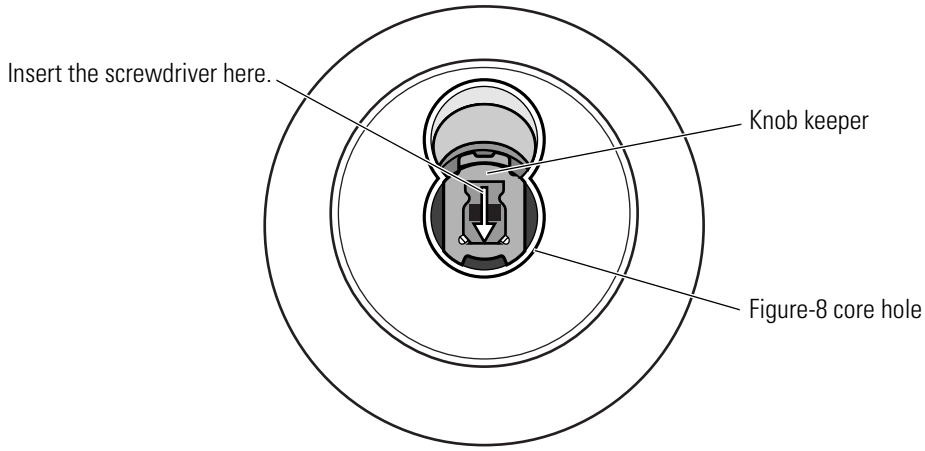


Figure 3.2 Removing the keyed knob

To remove the plain knob or button knob:

1. Insert the long protrusion on the KD316 spanner wrench into the hole on the shaft of the knob, as shown in Figure 3.3.
2. Slide the knob off the sleeve.

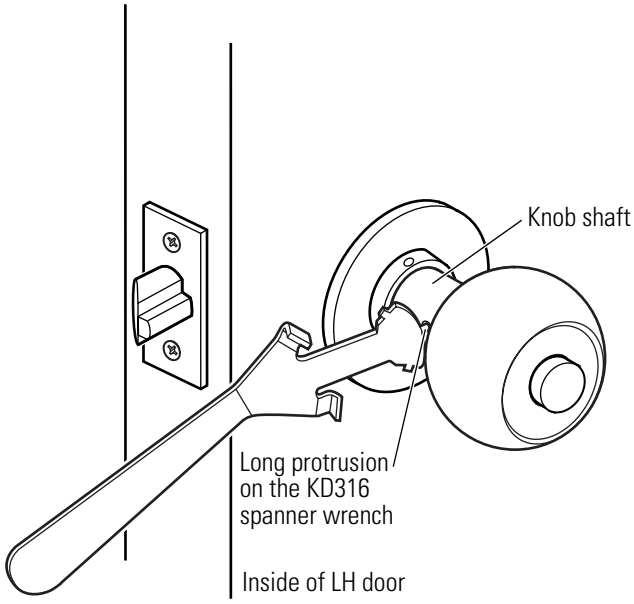


Figure 3.3 Removing the plain knob or button knob

To reinstall the knob:

1. Align the two drive lugs (plain or button knob) or notches (keyed knob) with the two slots in the sleeve, as shown in Figure 3.4.
2. Slide the knob onto the sleeve and firmly push on the knob until it is seated.

3. Turn the knobs to check that they operate smoothly.

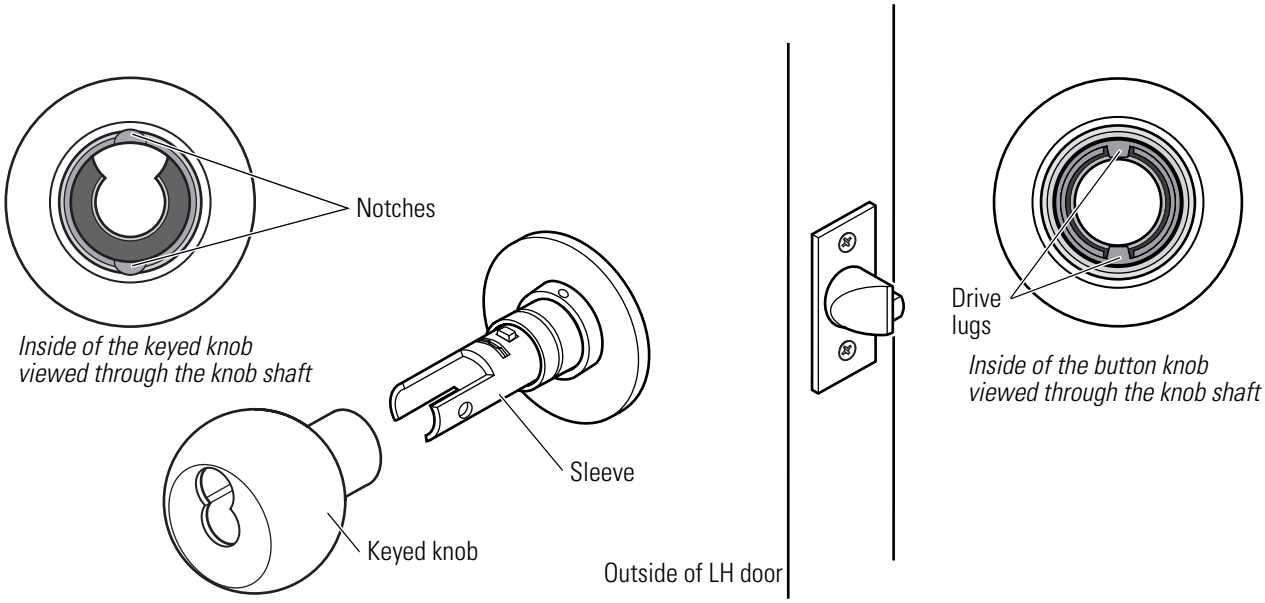


Figure 3.4 Reinstalling the knob

4. If the knob is keyed, insert the control key into the core and rotate the key 15 degrees to the right. Using the control key, insert the core and throw member into the knob. Rotate the control key 15 degrees to the left and remove the key.

Replacing the knob driver

To remove the knob driver:

1. Remove the keyed knob (page 3–3).
2. Use a flat blade screwdriver to press down on the knob driver tab, which is visible through the cutout in the top of the sleeve, as shown in Figure 3.5. The knob driver should fall out through the cutout in the bottom of the sleeve.

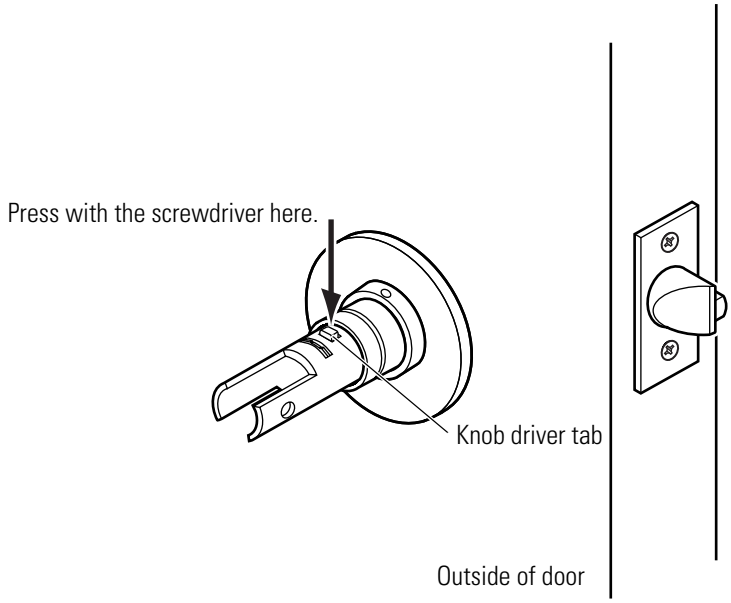


Figure 3.5 Removing the knob driver

To reinstall the knob driver:

1. Position the knob driver as shown in Figure 3.6.
2. Insert the knob driver into the sleeve until it snaps into place. The knob driver tab should be visible through the cutout in the top of the sleeve.

3. Reinstall the keyed knob (page 3–4).

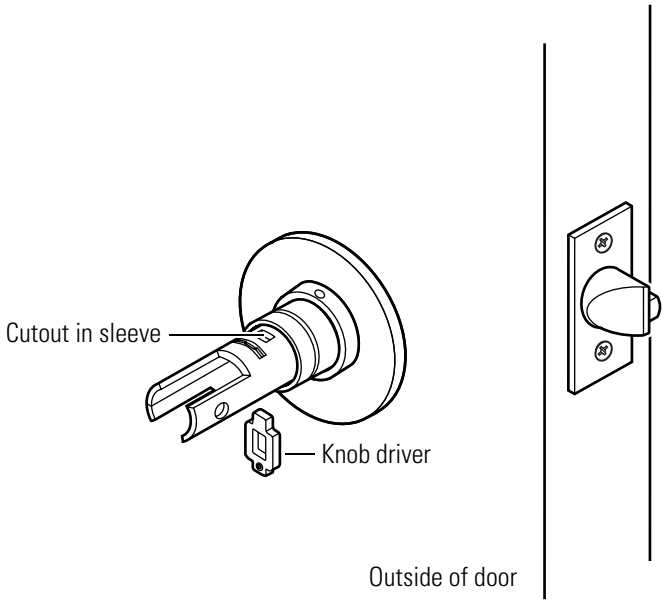


Figure 3.6 Reinstalling the knob driver

Replacing the inside rose assembly

To remove the inside rose assembly:

1. Remove the inside knob (page 3–4).
2. Insert the short protrusion on the KD316 spanner wrench into the hole on the rose ring and rotate it until you can remove the rose ring, as shown in Figure 3.7.
3. Slide the rose assembly off of the sleeve.

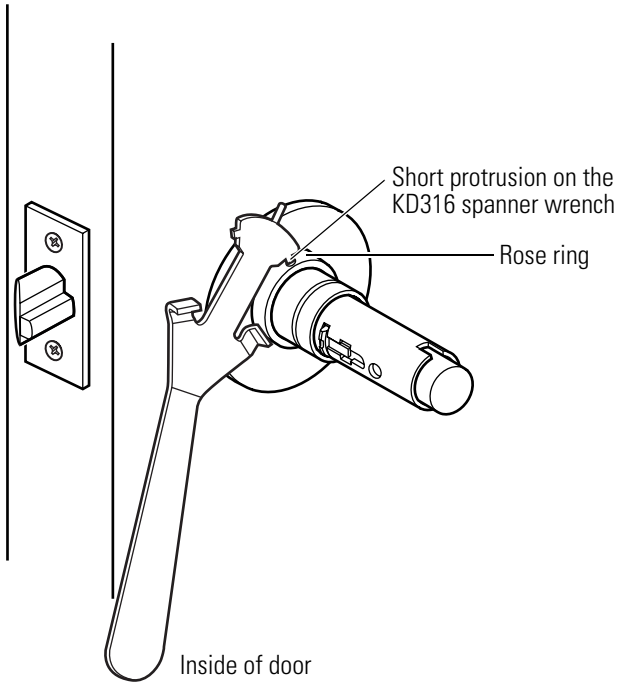


Figure 3.7 Removing the inside rose ring with the KD316 spanner wrench

To reinstall the inside rose assembly:

1. Slide the rose assembly onto the sleeve, as shown in Figure 3.8.
2. Thread the rose ring onto the sleeve until the rose assembly is snug against the door.
3. Reinstall the knob (page 3–4).

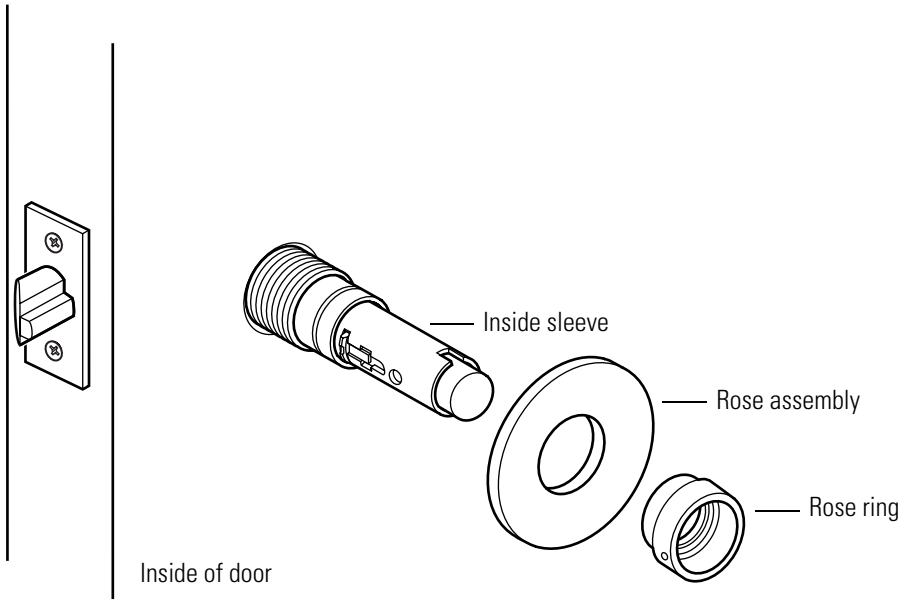


Figure 3.8 Reinstalling the inside rose assembly and rose ring

Replacing the outside rose assembly

To remove the outside rose assembly:

1. Remove the following components:
   - knobs (page 3–3)
   - inside rose assembly (page 3–7).
2. Slide the chassis assembly out of the door.
3. Retract the rose locking pin, and rotate the rose assembly until it is free from the hub. See Figure 3.9.

4. Remove the outside rose assembly from the sleeve.

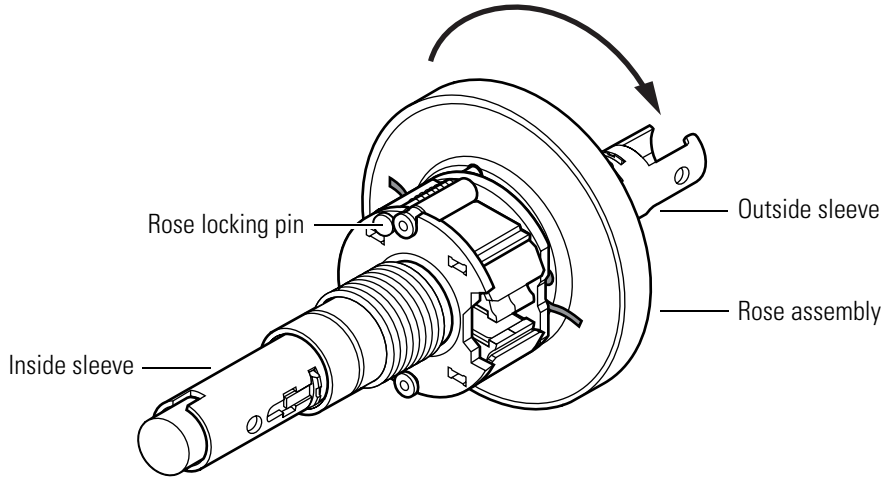


Figure 3.9 Removing the outside rose assembly

To reinstall the outside rose assembly:

1. Retract the rose locking pin. See Figure 3.10. When reinstalling the chassis and rose assembly in the door, rotate the rose assembly until it is positioned so that the chassis is centered in the door and the rose assembly is flush against the door.
2. Release the rose locking pin into a groove in the rose liner. The pin should lock into the rose liner.

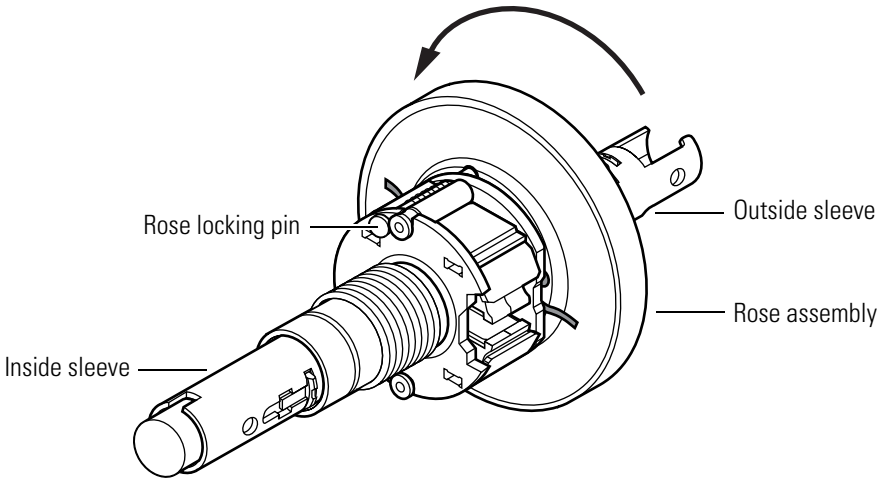


Figure 3.10 Reinstalling the outside rose assembly

3. Install the lock chassis assembly from the outside. Make sure the latch tabs engage the chassis frame and the latch tailpiece engages the retractor, as shown in Figure 3.11.

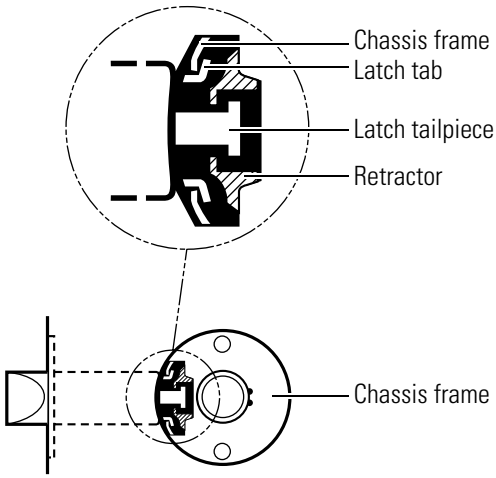


Figure 3.11 Engaging the retractor in the tailpiece

4. Reinstall the following components:
   - inside rose assembly (page 3–8)
   - knobs (page 3–4).

Replacing the button assembly

To remove the button assembly:

Note: These instructions apply for all types of button assemblies.

1. Remove the following components:
   - knobs (page 3–4)
   - inside rose assembly (page 3–7)
   - outside rose assembly (page 3–9).
2. Use a flat blade screwdriver to press down on the button assembly tab, which is visible through the cutout in the sleeve, as shown in Figure 3.12. The tab should now lie flat.

   Note: When performing this step, it is best to position the lock on a flat surface so that the retractor faces upward.

3. Press down on the retractor and slide the button assembly out of the sleeve.

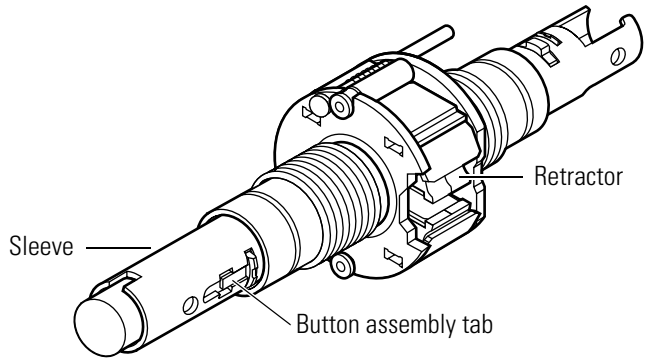


Figure 3.12 Removing the button assembly

To reinstall the button assembly:

1. Insert the new button assembly into the sleeve, as shown in Figure 3.13, until the tab lines up with the cutout in the sleeve. It may be necessary to slightly press in the retractor with your thumb so that the locking bar can properly align itself through the chassis and into the key release cam assembly.

   Note: The button assembly should not pop out of the sleeve. If it does, the assembly is misaligned and will not function properly.

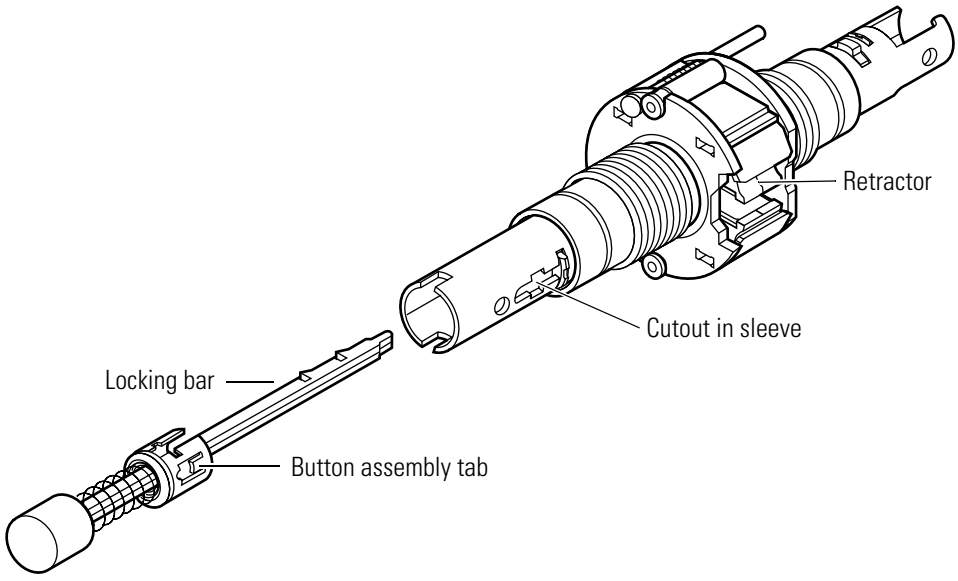


Figure 3.13 Inserting the button assembly into the sleeve

2. Insert a small screwdriver into the cutout in the sleeve and under the button assembly tab. Bend the tab into the cutout, as shown in Figure 3.14.

   Note: Do not bend the tab so that it protrudes further than the diameter of the sleeve. It could interfere with the knob function.

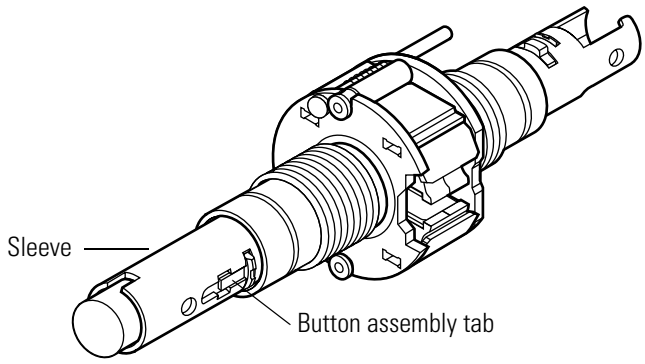


Figure 3.14 Bending the button assembly tab

3. Reinstall the following components:
   - outside rose assembly (page 3-9)
   - inside rose assembly (page 3-7)
   - knobs (page 3-4).

Replacing the knob keeper spring

To remove the knob keeper spring:

1. Remove the following components:
   - knobs (page 3-4)
   - inside rose assembly (page 3-7)
   - outside rose assembly (page 3-8)
   - button assembly, if present (page 3-10).
2. Using a pair of needle-nosed pliers, reach into the sleeve and remove the knob keeper spring. See Figure 3.15.

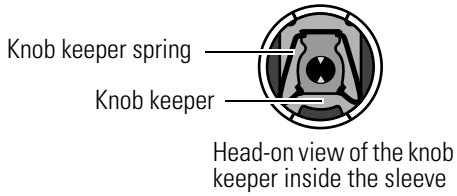


Figure 3.15 Removing the knob keeper spring

To reinstall the knob keeper spring:

1. Position the knob keeper spring as shown in Figure 3.16.

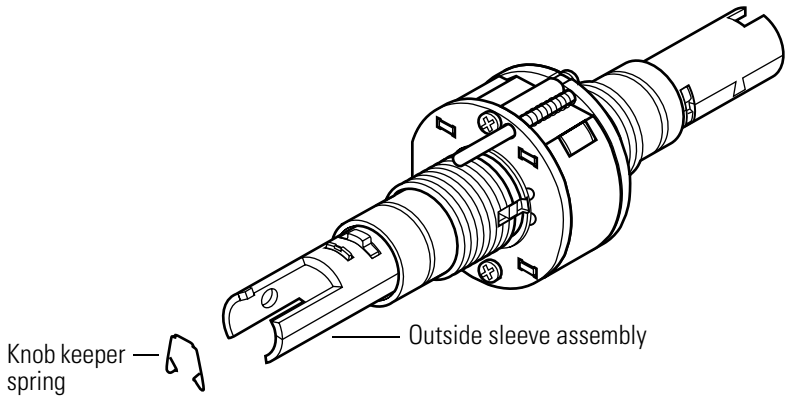


Figure 3.16 Positioning the knob keeper spring

2. Use a pair of needle-nosed pliers to insert the knob keeper spring into the sleeve. Using the pliers, work the spring into position so that the spring is gripping the knob keeper, as shown in Figure 3.17.

   Note: If the knob keeper spring is not installed correctly, the knob may fall off the chassis.

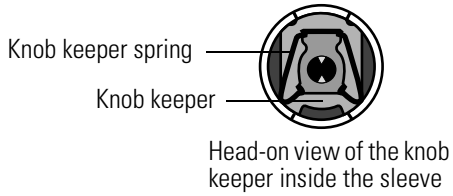


Figure 3.17 Knob return spring in position

3. Reinstall the following components:
   - button assembly, if present (page 3–11)
   - outside rose assembly (page 3–9)
   - inside rose assembly (page 3–7)
   - knobs (page 3–4).

Replacing the key release cam assembly

To remove the key release cam assembly:

1. Remove the following components:
   - knobs (page 3–4)
   - inside rose assembly (page 3–7)
   - outside rose assembly (page 3–8)
   - button assembly, if present (page 3–10).

2. Remove the two chassis screws shown in Figure 3.18, and separate the hub and sleeve assembly from the rest of the chassis. Save the two screws.

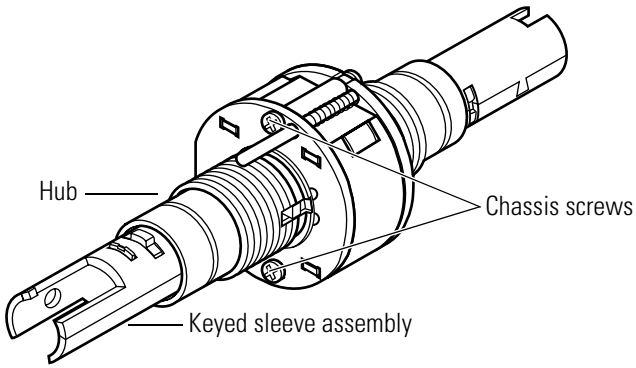


Figure 3.18 Separating the chassis

3. Rotate the ear on the key release cam 45 degrees and pull the key release cam assembly out of the sleeve, as shown in Figure 3.19.

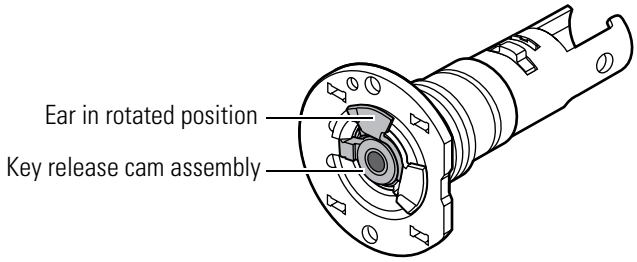


Figure 3.19 Removing the key release cam assembly

To reinstall the key release cam assembly:

1. Make sure that the deep slot in the sleeve lines up with the slot in the hub.
2. Insert the key release cam assembly into the sleeve so that the locking lug fits into the slot in the sleeve, as shown in Figure 3.20.

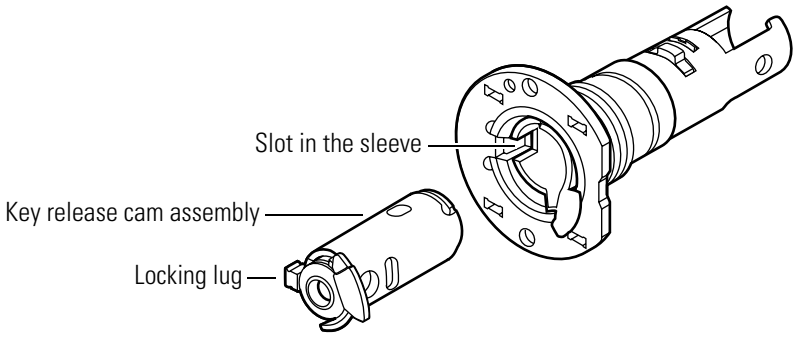


Figure 3.20 Reinstalling the key release cam assembly

3. Slide the chassis cover over the retractor assembly.
4. Align the open end of the retractor assembly with the ears on the key release cam assembly and sleeve in the inside hub assembly.
5. Press the retractor toward the retractor springs and insert the feet of the retractor assembly into the notches in the inside hub, as shown in Figure 3.21.

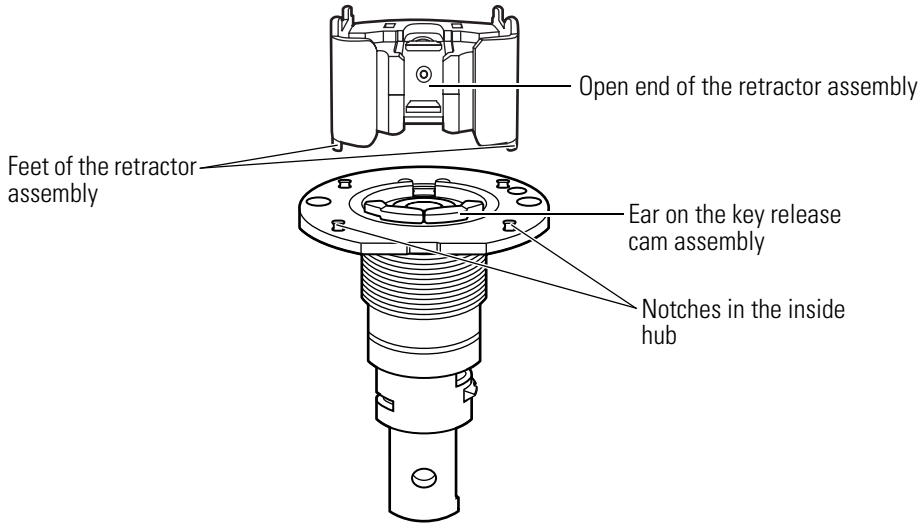


Figure 3.21 Positioning the retractor

6. Align the feet of the retractor assembly with the notches in the outside hub assembly, and the rose locking pin with the smaller of the two holes on the outside assembly, as shown in Figure 3.22. Press the retractor toward the retractor springs and slide the two sections together.

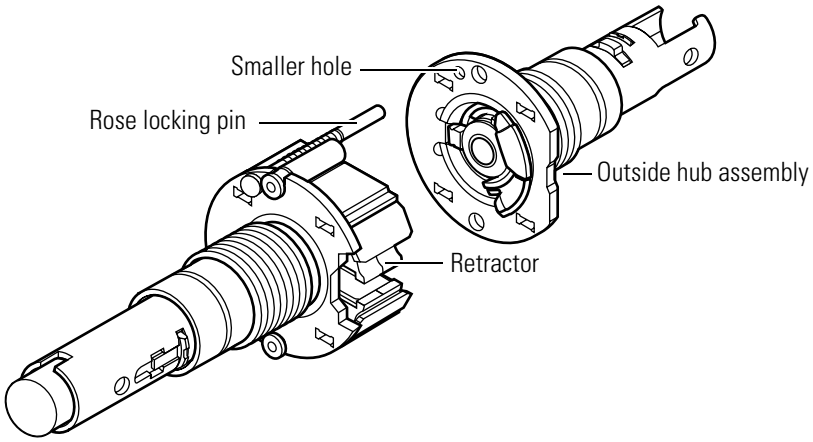


Figure 3.22 Reinstalling the retractor

7. Install the two chassis screws.

8. Reinstall the following components:
   - button assembly, if present (page 3-11)
   - outside rose assembly (page 3-9)
   - inside rose assembly (page 3-7)
   - knobs (page 3-3).

Replacing the sleeve assembly

To remove the sleeve assembly:

1. Remove the following components:
   - knobs (page 3-3)
   - knob driver of the sleeve you are replacing (page 3-6)
   - inside rose assembly (page 3-7)
   - outside rose assembly (page 3-8)
   - button assembly, if present (page 3-10)
   - key release cam assembly (page 3-13).
2. Position the sleeve as shown in Figure 3.23. Push the sleeve through the hub as far as possible.
3. From the end of the sleeve that is opposite of the hub, insert a flat blade screwdriver through the sleeve and into the knob keeper.
4. Press the screwdriver blade in the direction of the arrow in Figure 3.23. Push the sleeve through the hub, keeping the knob keeper pushed in until it clears the hub.

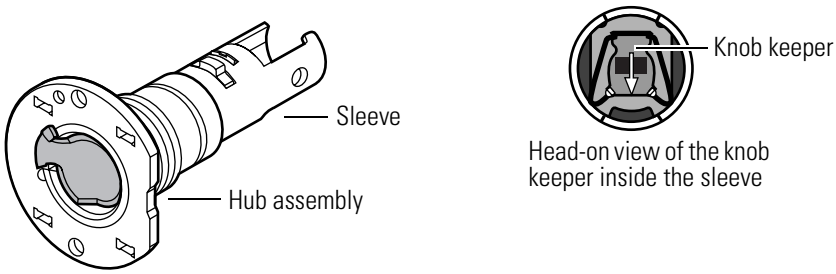


Figure 3.23 Removing and replacing the sleeve assembly

To reinstall the sleeve assembly:

1. Insert the sleeve through the hub as far as possible.
2. Insert a flat blade screwdriver through the sleeve and into the knob keeper.
3. Press the screwdriver blade in the direction of the arrow in Figure 3.23. Push the sleeve the rest of the way through the hub.

4. Align the sleeve so that the deep slot in the sleeve lines up with the slot in the hub, as shown in Figure 3.24.

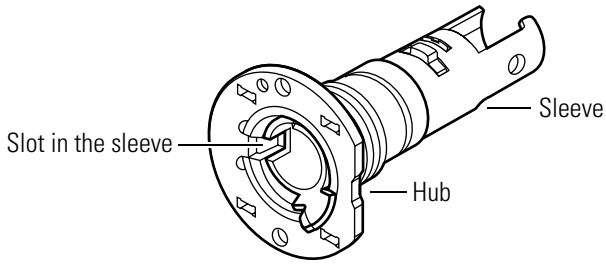


Figure 3.24 Positioning the sleeve

5. Reinstall the following components:
   - key release cam assembly (page 3-14)
   - button assembly, if present (page 3-11)
   - outside rose assembly (page 3-9)
   - inside rose assembly (page 3-7)
   - knobs (page 3-4).

REPLACING COMPONENTS FOR ELECTRIFIED FUNCTION LOCKS

Replacing the inside rose and rose liner

To remove the inside rose and rose liner:

1. Remove the inside knob (page 3–3).
2. Insert the solid, curved end of the KD317 spanner wrench in between the rose and the sleeve, as shown in Figure 3.25. Pry the rose until it pops off of the liner.

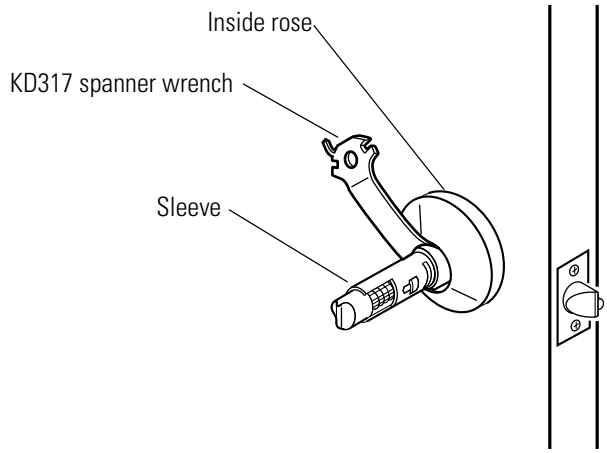


Figure 3.25 Removing the inside rose with the KD317 spanner wrench

3. Unscrew the two through-bolts, as shown in Figure 3.26. Save the through-bolts.

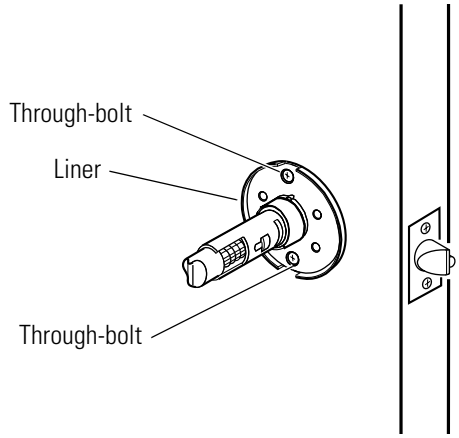


Figure 3.26 Removing the two through-bolts

4. *If there is an RQE rose liner*, disconnect it.
5. Slide the liner off of the sleeve.

To reinstall the inside rose and rose liner:

1. Align the holes in the liner with the holes prepared in the door.
2. Install the two through-bolts through the liner and door in the top and bottom holes.
3. Tighten the liner onto the door with the through-bolts.
4. *If there is an RQE rose liner*, connect it.
5. Install the rose.
6. Reinstall the knob (page 3–4).

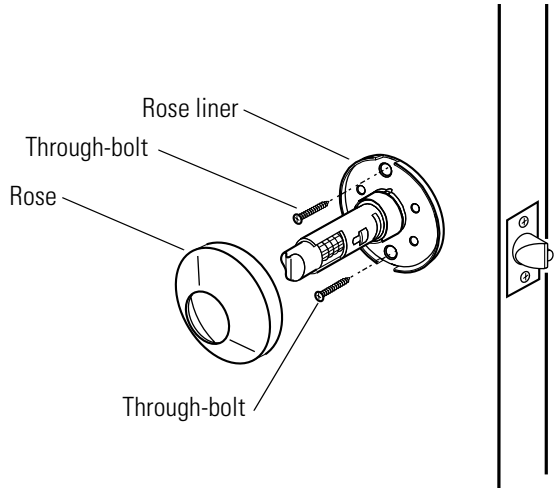


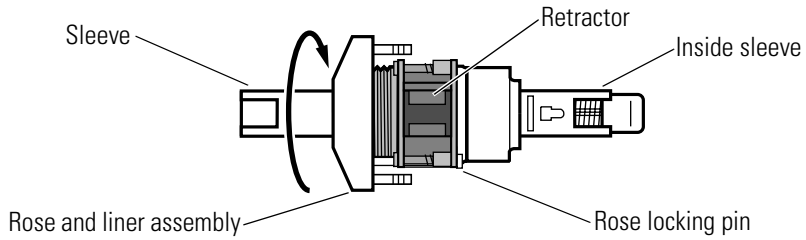
Figure 3.27 Replacing the inside rose and rose liner

Replacing the outside rose and liner assembly

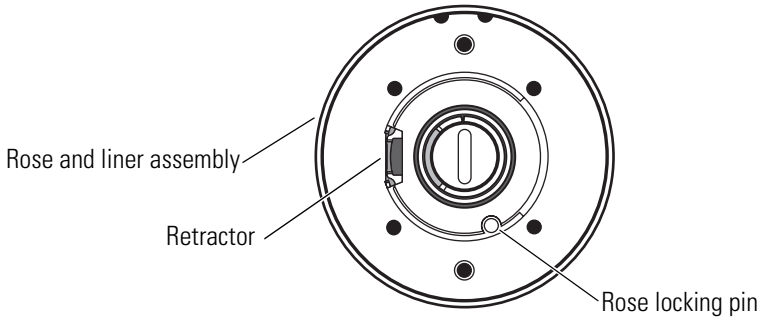
To remove the outside rose and liner assembly:

1. Remove the following components:
   - knobs (page 3–3)
   - inside rose and rose liner (page 3–18).
2. Slide the chassis assembly out of the door.
3. Retract the rose locking pin, and rotate the rose and liner assembly counterclockwise until it is free from the hub.

4. Remove the rose and liner assembly from the sleeve.



Retractor-side view of the chassis



Head-on view of the rose and liner assembly from the inside sleeve side

Figure 3.28 Removing the outside rose and liner assembly

To reinstall the outside rose and liner assembly:

1. Retract the rose locking pin, and rotate the rose and liner assembly clockwise until the proper door thickness groove on the through-bolt stud lines up with the hub face.

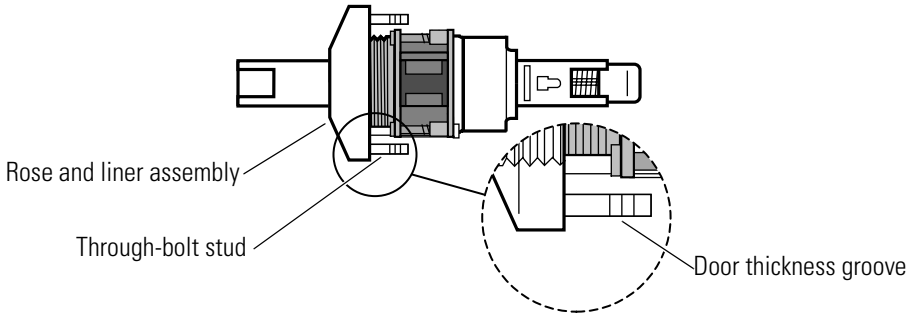


Figure 3.29 Replacing the outside rose and liner assembly

2. Release the rose locking pin. It should lock into the rose liner.
3. Install the lock chassis assembly from the outside. Make sure the latch tabs engage the chassis frame and the latch tailpiece engages the retractor.

4. Reinstall the following components:
   - inside rose and rose liner (page 3–8)
   - knobs (page 3–3).

Replacing the RQE rose liner

To remove the RQE rose liner:

1. Remove the following components:
   - knobs (page 3–3)
   - inside rose and rose liner (page 3–18).
2. Disconnect the RQE connector.
3. Remove the through-bolts and the RQE rose liner.

To reinstall the RQE rose liner:

1. Place the RQE rose liner on the chassis, aligning the holes in the rose liner with the holes prepared in the door.



Make sure that there is clearance for the solenoid wire between the RQE rose liner and the door.

2. Install the through-bolts through the RQE rose liner and door in the top and bottom holes.
3. Tighten the RQE rose liner on the door with the through-bolts.
4. Connect the RQE connector.
5. Reinstall the following components:
   - inside rose and rose liner (page 3–8)
   - knobs (page 3–3).

Replacing the solenoid

Because of the complex nature of this procedure, BEST recommends that you order a new cylindrical chassis. Contact your BEST representative.

Use the part numbers listed in *Reversing the solenoid when changing the function* when ordering a new cylindrical chassis. See page 3–22.

ADDING THE RQE SWITCH TO ELECTRIFIED FUNCTION LOCKS

Because of the complex nature of this procedure, BEST recommends that you order a new electrified function chassis and a RQE rose liner. Contact your BEST representative.

Use the following part numbers when ordering a new electrified function chassis and RQE rose liner.

Chassis type	Part number
8KW DEL	C60247
8KW DEU	C60243

RQE rose liner	Part number
Small	B61049
Large	B60221

REVERSING THE SOLENOID WHEN CHANGING THE ELECTRIFIED FUNCTION

Because of the complex nature of this procedure, BEST recommends that you order a new electrified function chassis. Contact your BEST representative.

Use the following part numbers when ordering a new electrified function chassis.

Chassis type	Part number
8KW DEL	C60247
8KW DEL (without RQE)	C60246
8KW DEU	C60243
8KW DEU (without RQE)	C60242

LUBRICATING THE CORES



Caution

Do not lubricate cores with oil. Doing so will only attract dirt.

For powdered graphite lubrication:

1. Dip a key in graphite. Insert the key into the keyhole and remove it; repeat several times. *OR*

   Spray graphite into the keyhole. Insert the key into the keyhole and remove it; repeat several times.

2. Allow the graphite to sift into the pin segment holes.

For silicone type lubrication:

1. Clean all existing lubricant out of the core.

Caution

Do not mix graphite with a silicone-type lubricant.

2. With the core inverted, spray the lubricant into the key opening allowing the spray to penetrate the pin segment holes.

   Note: When cores are installed and exposed to harsh weather conditions, silicone-type lubricants can help displace moisture as well as spread into pin segment holes and other surfaces.

ALIGNING THE CHASSIS AND TRIM

Establish a schedule to inspect locks, doors, and door hardware for proper alignment and operation. Occasionally a lock chassis and/or rose trim may become loose and require tightening.

To retighten a loose or misaligned chassis or rose trim:

1. Remove the inside trim. Instructions begin on page 3-3.
2. Align the chassis with the latch. Make sure that the latch tabs engage the chassis frame and the latch tailpiece engages the retractor, as shown in Figure 3.30.

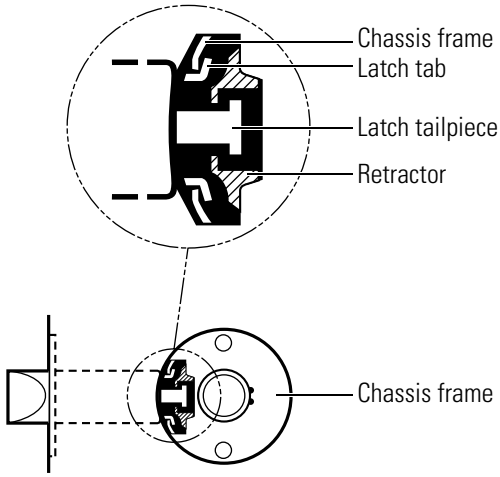


Figure 3.30 Engaging the retractor in the latch

3. Tighten the chassis screws.
4. Test the knob operation to make sure that the latch tailpiece does not bind with the chassis retractor.
5. Reinstall the inside trim. Instructions begin on page 3-3.

CAM POSITIONING INSTRUCTIONS

Positioning the cam for C function locks

Vibration during the shipment of the C function locks may cause the inside locking cam to rotate out of position. It is possible to insert the core and throw member in this incorrect position, but faulty operation will result. You might notice this problem in one of the following ways.

- The inside key does not rotate the full 360 degrees and the outside key does not rotate the full 135 degrees. Remove the inside core and throw member, and perform the steps below to reposition the inside locking cam.
- Before you install the core and throw member, you can see that the inside locking cam is not positioned as shown in Figure 3.31. Perform the following steps to reposition the inside locking cam.

To reposition the locking cam:

1. Be sure the inside knob locking cam, which engages the throw member, is rotated. Looking into the figure-8 core hole in the inside knob, turn the locking cam ears to match the position shown in Figure 3.31.

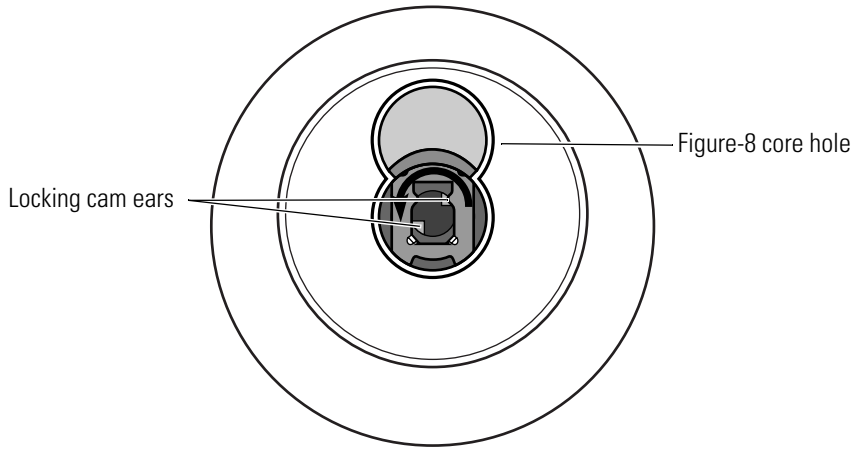


Figure 3.31 Correct position of the C function inside locking cam

2. With the lock in the locked position, install the core and throw member.
3. Check the operation of the knobs while the door is open. The outside knob is locked by rotating the inside key 360 degrees clockwise and unlocked by rotating the inside key 360 degrees counterclockwise.

Positioning the cam for G function locks

Vibration during the shipment of the G function locks may cause the inside locking cam to rotate out of position. It is possible to insert the core and throw member in this incorrect position, but faulty operation will result. You might notice this problem in one of the following ways.

- With the knobs in the locked position, both the inside and outside keys do not rotate one full turn in both directions. Remove both cores and throw members, and perform the following steps to reposition the locking cam.
- Before you install the core and throw member, you can see that the locking cam is not positioned as shown in Figure 3.32. Perform the following steps to reposition the locking cam.

To reposition the locking cam:

1. Looking through the figure-8 core hole in either knob, turn the locking cam drive slot to match the position shown in Figure 3.32.

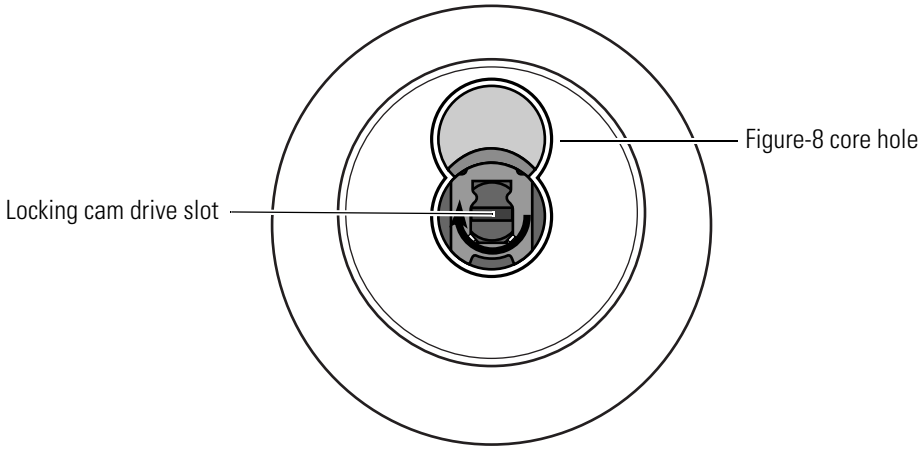


Figure 3.32 Correct position of the G function locking cam

2. With the lock in the locked position, install that knob's core and throw member.

3. Looking into the figure-8 core hole in the other knob, turn the locking cam drive slot until it stops, as shown in Figure 3.33.

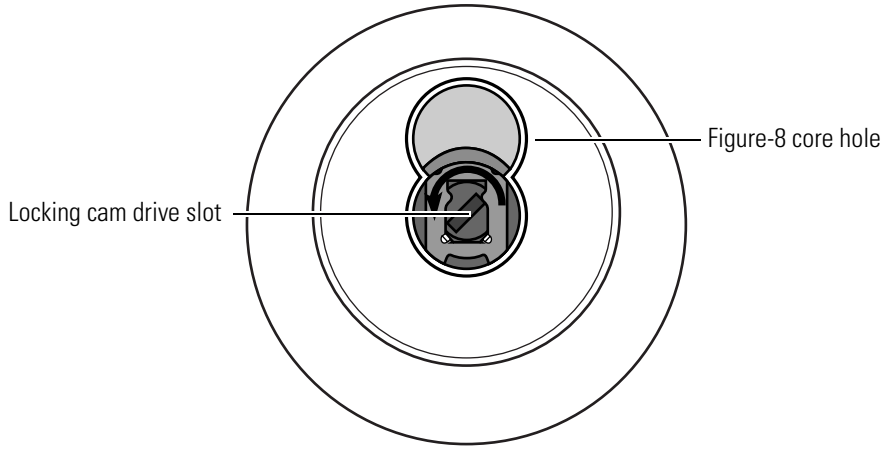


Figure 3.33 Intermediate position of the G function locking cam

4. Turn the drive slot clockwise to match the position shown in Figure 3.32.
5. Reinstall that knob's core and throw member.
6. Check the operation of the knobs while the door is open. The knobs are locked by rotating the key 1 1/4 turns counterclockwise and unlocked by rotating the key 1 1/4 turns clockwise.

Positioning the cam for R, S, & T function locks

Vibration during the shipment of the R, S, & T function locks may cause the locking cam to rotate out of position. It is possible to insert the core and throw member in this incorrect position, but the lock will not function properly. You might notice this problem in one of the following ways.

- The inside key does not rotate the full 360 degrees and/or the outside key does not rotate the full 135 degrees. Remove the core and throw member, and perform the steps below to reposition the inside locking cam.
- Before you install the core and throw member, you can see that the locking cam is not positioned as shown in Figure 3.34. Perform the following steps to reposition the locking cam.

To reposition the locking cam:

1. Be sure the locking cam, which engages the throw member, is rotated counterclockwise. Looking into the figure-8 core hole in the knob, turn the locking cam ears counterclockwise to match the position shown in Figure 3.34.

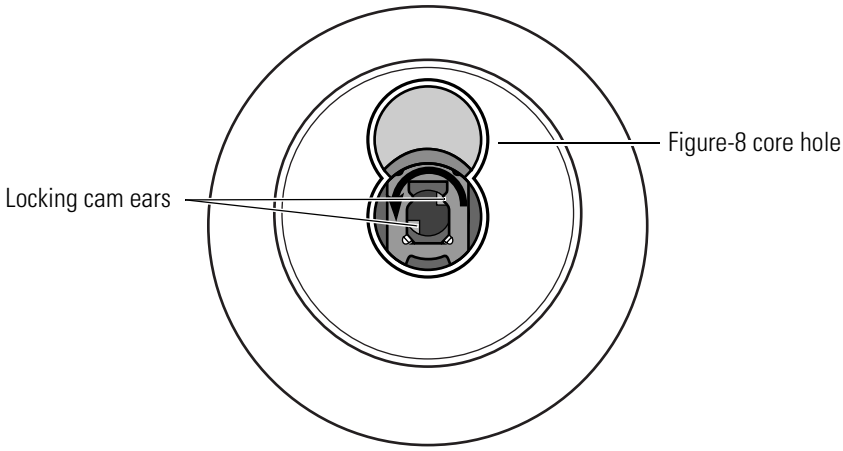


Figure 3.34 Correct position of the R, S, & T function locking cam

2. With the lock in the locked position, install the core and throw member.

   For the S function, repeat Steps 1 and 2 for the other side of the lock. For the R and T functions, go to Step 3.

3. Check the operation of the knobs while the door is open. The knob is locked by rotating the key 360 degrees counterclockwise and unlocked by rotating the key 360 degrees clockwise.

Note: For T function locks, when the outside knob is locked by the key, the knob remains locked even though the push button is released from turning the inside knob or closing the door.

EMERGENCY KEY INSTRUCTIONS FOR H AND HJ FUNCTION LOCKS

To use the emergency key:

1. Remove the core and throw member (page 3–3).
2. Insert the blade of the emergency key into the slot of the figure-8 core hole, as shown in Figure 3.35.

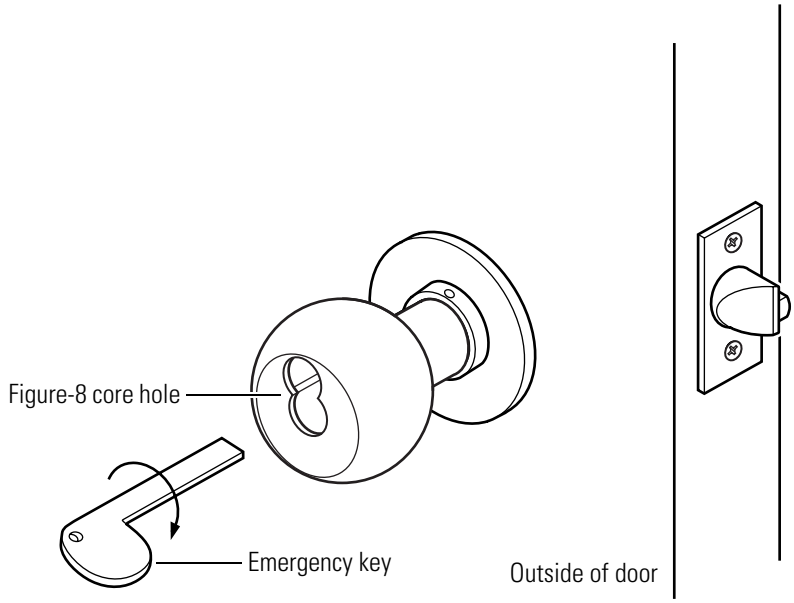


Figure 3.35 Inserting the emergency key

3. Turn the key and retract the latch.

TROUBLESHOOTING

This table summarizes the possible causes for certain lock problems. The causes are listed in the order of likelihood. (The most likely cause is first, and so forth.)

You notice…	Possible causes include…	You should…
Knob won't return to its normal position.	There is binding between the knob and rose.	Ensure that the lock chassis is centered within the door (pg. 3-23).
Key spins freely, but won't retract the latch or unlock the door.	a. Throw member is not installed.	a. Install the throw member.
	b. 6-pin core is installed with a 7-pin throw member.	b. Change the core or throw member.
	c. Knob driver is not installed.	c. Install the knob driver (pg. 3-6).
Core doesn't fit into the knob core hole.	a. 7- pin core is installed with a 6-pin throw member.	a. Change the core or throw member.
	b. Keyed knob is defective.	b. Replace the keyed knob (pg. 3-4).
Button doesn't pop out as expected.	Button shaft is damaged or bent.	Replace the button assembly (pg. 3-10).
Latch doesn't retract.	a. Latch tailpiece is broken.	a. Replace the latch assembly.
	b. Latch tailpiece didn't engage the retractor correctly during installation.	b. Reinstall the lock chassis (pg. 3-23).
For a C function lock, the inside key does not rotate the full 360°, and the outside key doesn't rotate the full 135°.	Inside locking cam is out of position.	Reposition the inside locking cam (pg. 3-24).
For a G function lock with knobs in the locked position, the key doesn't rotate one full turn in both directions.	Locking cam is out of position.	Reposition the locking cam (pg. 3-25).
For R, S, and T function locks, the key doesn't rotate one full turn in both directions.	Locking cam is out of position.	Reposition the locking cam (pg. 3-26).
Cannot remove the operating key from an H or HJ function lock.	Key is turned 180 degrees past the correct position.	Push the inside button, turn the key back 180°, and remove the key.

A INSTALLATION INSTRUCTIONS

The following pages contain the *Installation Instructions for 8K Cylindrical Locks* and the *Wiring Instructions for 8K & 9K Series Electrified Cylindrical Locks*.

Installation Instructions for 83K–85K Cylindrical Locks

Preparing the door

For factory prepared doors only

1 Install the latch so that the bevel on the latchbolt faces the strike lip.

2 Adjust the outside rose so that the chassis is centered in the door. Install the chassis from the outside of the door.

3 Install the inside rose, rose ring, knob, and strike plate.

Caution: **If you use fabricated hollow metal doors, determine whether the doors are reinforced enough to support the lock. If the door reinforcement is not adequate, consult the door manufacturer for information on proper reinforcement.**

Note: *For detailed installation instructions, see the following steps.*

1 Position template

1 Fold the template and place it in position on the high edge of the door bevel. (See Figure 2.)

2 Mark the drill points.

Note: *Suggested height from floor to centerline of the lock is 40 5/16". If steel frames are used, the latch centerline must be in line with the center of the strike preparation.*

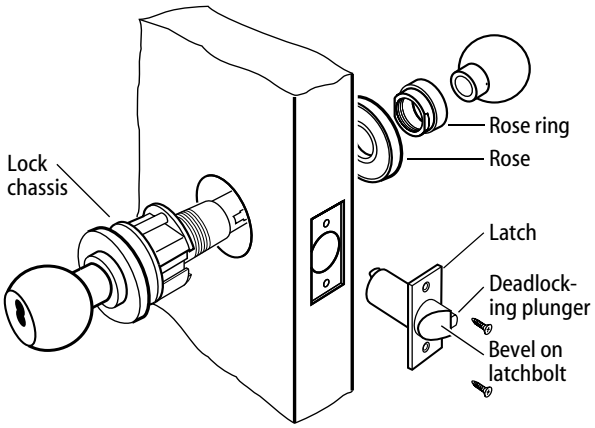


Figure 1 Overview diagram

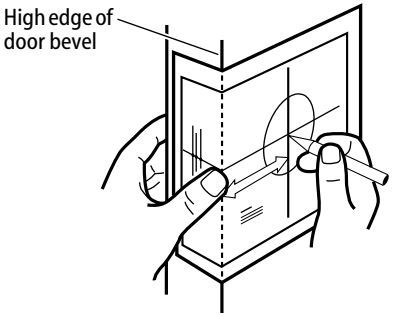


Figure 2 Marking the drill points

Preparing the lock

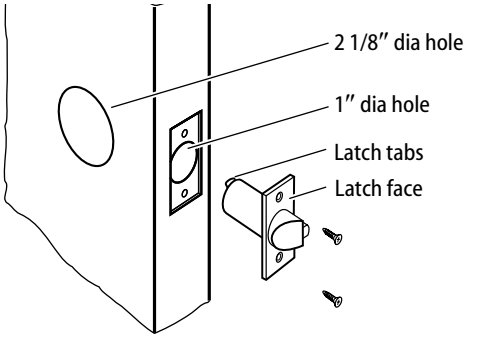


Figure 3 Boring holes and installing the latch

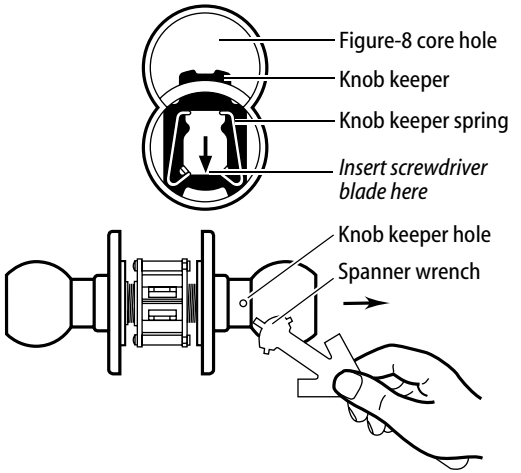


Figure 4 Removing inside knob and trim

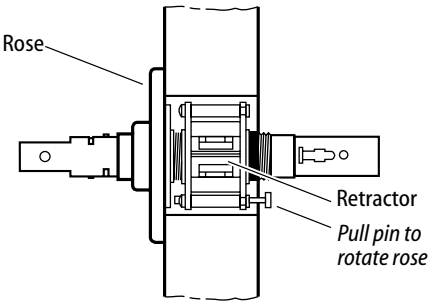


Figure 5 Marking the centerlines

2 Bore holes and install latch

1 Bore a 2 1/8″ diameter hole from both sides of the door to the center of the door. (See Figure 3.)
2 Drill a 1″ diameter hole from the edge of the door that intersects the 2 1/8″ hole.
3 Mortise the door edge for the latch face.
4 Install the latch and check the door swing. Latch tabs should project into the 2 1/8″ diameter hole. See Task 5, *Install chassis*.

3 Remove inside knob and trim

For inside knobs with button or blank face:

1 Insert the spanner wrench tip into the knob keeper hole and depress the keeper. (See Figure 4.)
2 Slide the knob off.
3 Unthread the rose ring and remove the rose.

For keyed inside knobs:

1 Remove the core and throw member (if not already removed). For instructions on removing the core, see Task 9, *Install core*.
2 Insert a screwdriver into the figure-8 core hole and into the keeper. (See Figure 4, top.)
3 Using the edge of the screwdriver, press down on the keeper and slide the keyed knob off of the sleeve.

Caution: **You will not be able to remove the knob if you put the screwdriver blade too far past the keeper.**

4 Center lock in door

Check to see if the lock retractor is centered in the door.

- If centered, proceed to Task 5, *Install core*.
- If not centered, use the door as a reference and center the retractor in the door. Do this by pulling the rose locking pin and rotating the outside rose in or out. (See Figure 5.)

Caution: **Center the retractor before proceeding to Step 5, *Install chassis*.**

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Installing the lock

Note 1: *Make sure the locking pin locks back into the rose liner.*

Note 2: *Locks with standard trim will fit doors 1 3/8″ to 2 1/8″ thick. Locks with 'E' trim will fit doors 2 1/4″ to 3″ thick.*

5 Install chassis

- After the retractor has been centered, and with the latch in place, install the chassis from the outside of the door. Make sure the latch tabs fit into the chassis frame and the latch tailpiece fits into the retractor. (See Figure 6.)

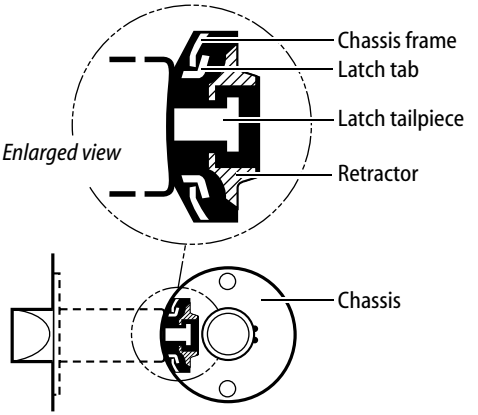


Figure 6 Installing the chassis

6 Install inside rose and knob

Note: *For lead lined locksets, slide the lead shield (not shown) over the sleeve and into the 2 1/8″ hole.*

1 Slide the rose over the sleeve, then thread the rose ring onto the threaded hub and tighten snugly with the spanner wrench.

For non-keyed inside knobs:

2 Align the knob keeper hole with the knob keeper in the sleeve as shown in Figure 7. Firmly push the knob on until seated.

For keyed inside knobs:

2 Align either of the knob driver slots with the knob driver in the sleeve as shown in Figure 8. Firmly push the knob on until seated.

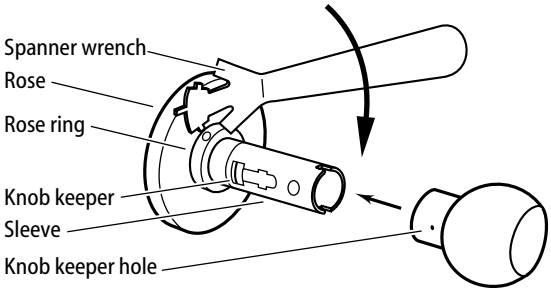


Figure 7 Installing the inside knob and rose

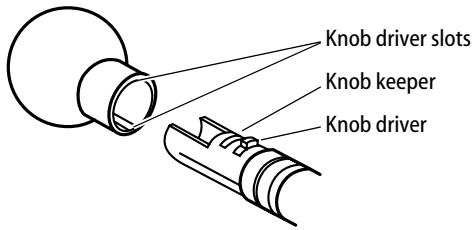


Figure 8 Installing the inside keyed knob

Completing the installation

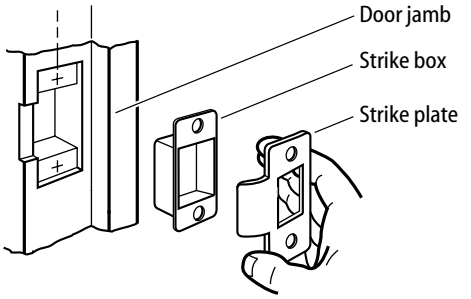


Figure 9 Installing the strike

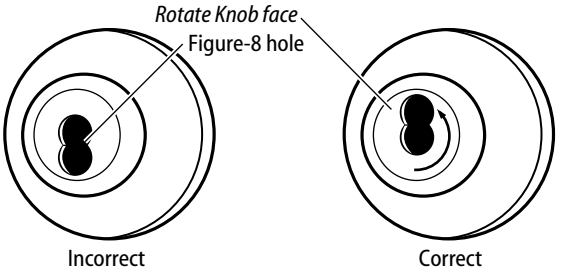


Figure 10 Turning the knob face to correct the handing of the lock

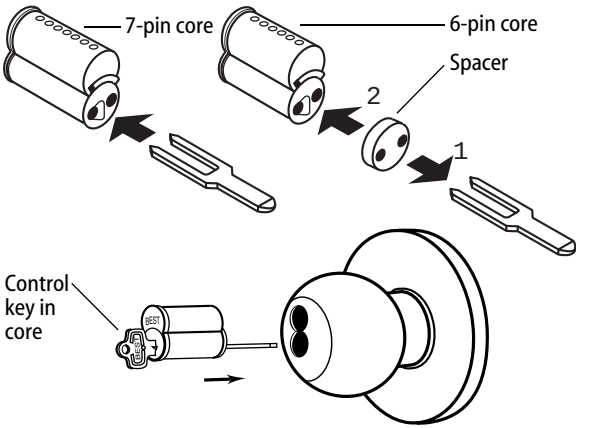


Figure 11 Installing the figure-8 core

7 Install strike plate

1 Mortise the door jamb to fit the strike box and strike plate. Make sure to align the strike plate and latchbolt centers.

Caution: **The deadlocking plunger of the latchbolt must not enter the strike plate. The plunger deadlocks the latchbolt and prevents forcing the latch when the door is closed. Excessive gap may reduce security and/or cause malfunction of the latchbolt assembly. A maximum door gap of 1/8″ is recommended.**

2 Insert the strike box and secure the strike plate with the screws provided.

8 Check handing

Note: *When Best 8K locksets are properly installed, the figure-8 hole must be in the upper half of the knob. If it is not, change the hand of the lock.*

To change the hand of the lock:

- Rotate the knob face 180 degrees so that the figure-8 is in the upper half of the knob.

9 Install core

For 6-pin core users only: Slide the spacer — supplied with your 6-pin cores — over the 7-pin throw member (see Figure 11, top right).

Note: *If you have ordered 6-pin cores, you will get one spacer per core with your order. Spacers are not supplied with locks.*

1 Insert the throw member (or throw member and spacer) into the back of the core (see Figure 11, top).

2 Put the control key into the core and turn the key 15 degrees clockwise.

3 Put the core and throw member into the knob with the control key (see Figure 11, bottom).

4 Turn the key 15 degrees counterclockwise and remove the key.

Caution: **Since the control key is a high-security key, make sure to keep it protected.**

Wiring Instructions for 8K and 9K Series Electrified Cylindrical Locks with Request-to-exit

Wiring diagram

The diagram below shows how to wire 8K and 9K electrified locks.

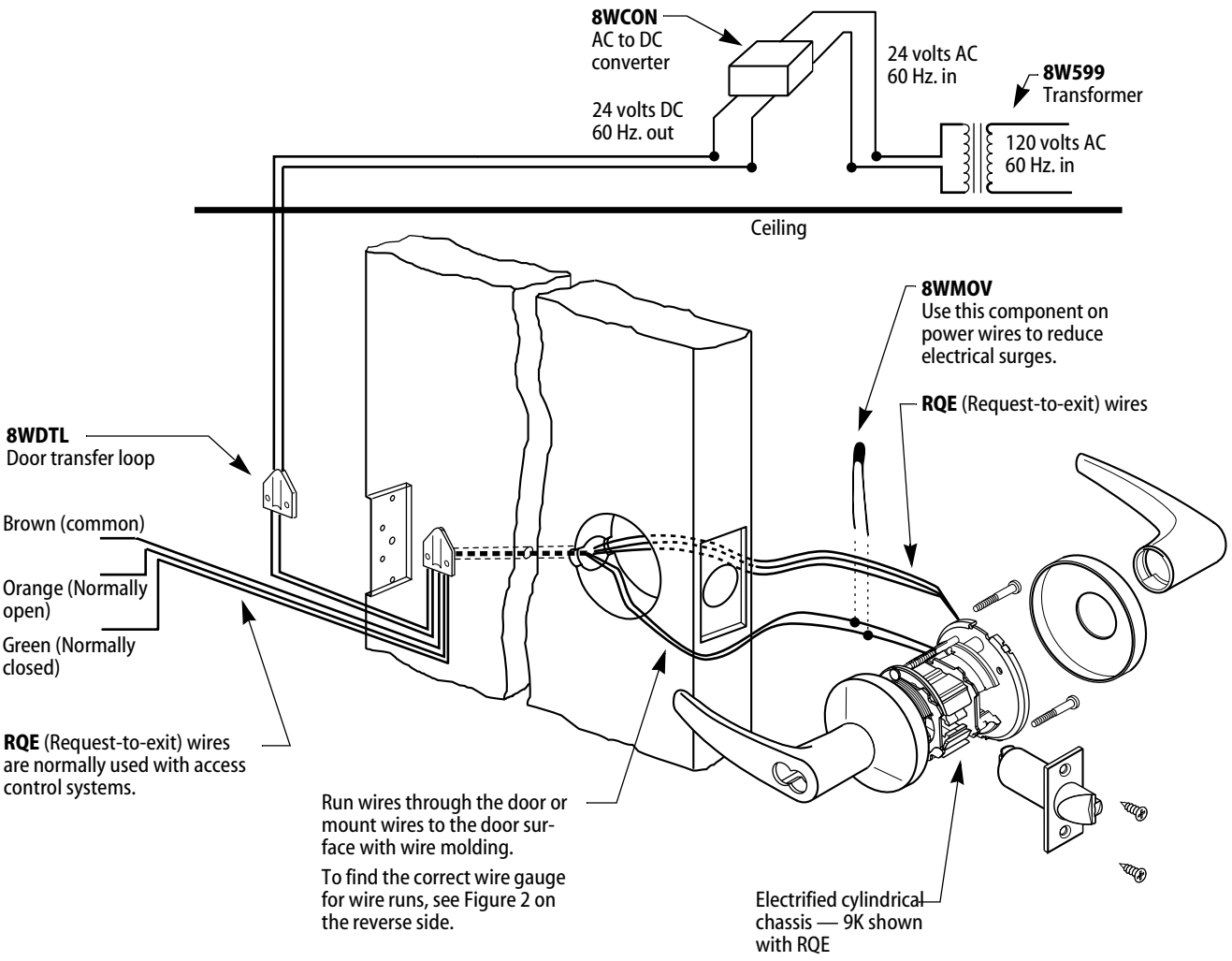


Figure 1—Wiring diagram for 8K and 9K electrified locks (9K with RQE shown)

Electrical requirements

The following table describes the voltage and current specifications for the 8K and 9K locks, with RQE (REX) switch, and door monitoring switch.

Unit	Voltage	Current
8K (RQE not available)	24 volts DC	0.18 amp continuous duty
9K with and without RQE	24 volts DC	0.169 amp continuous duty
RQE switch	30 volts DC maximum	0.7 amp inductive 0.7 amp resistive

Parts list

The following table describes the parts illustrated in Figure 1. You may substitute most components with equivalent parts.

Part number	Description
8W599	Transformer—24 volt AC, 40 volt-amps. See the examples under Installation Hints on the reverse side.
8WDTL	Door transfer loop. You may substitute this with a power transfer hinge.
8WMOV	Metal oxide varistor
8WCON	AC to DC converter (full-wave bridge rectifier)

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(Over)

Minimum gauge wire chart for lock circuits

The chart in Figure 2 helps you find the minimum wire gauge needed for a specific length wire run. It assumes that the lock circuit is made of two conductor cable. The chart also factors in a 15% voltage loss at 24 volts.

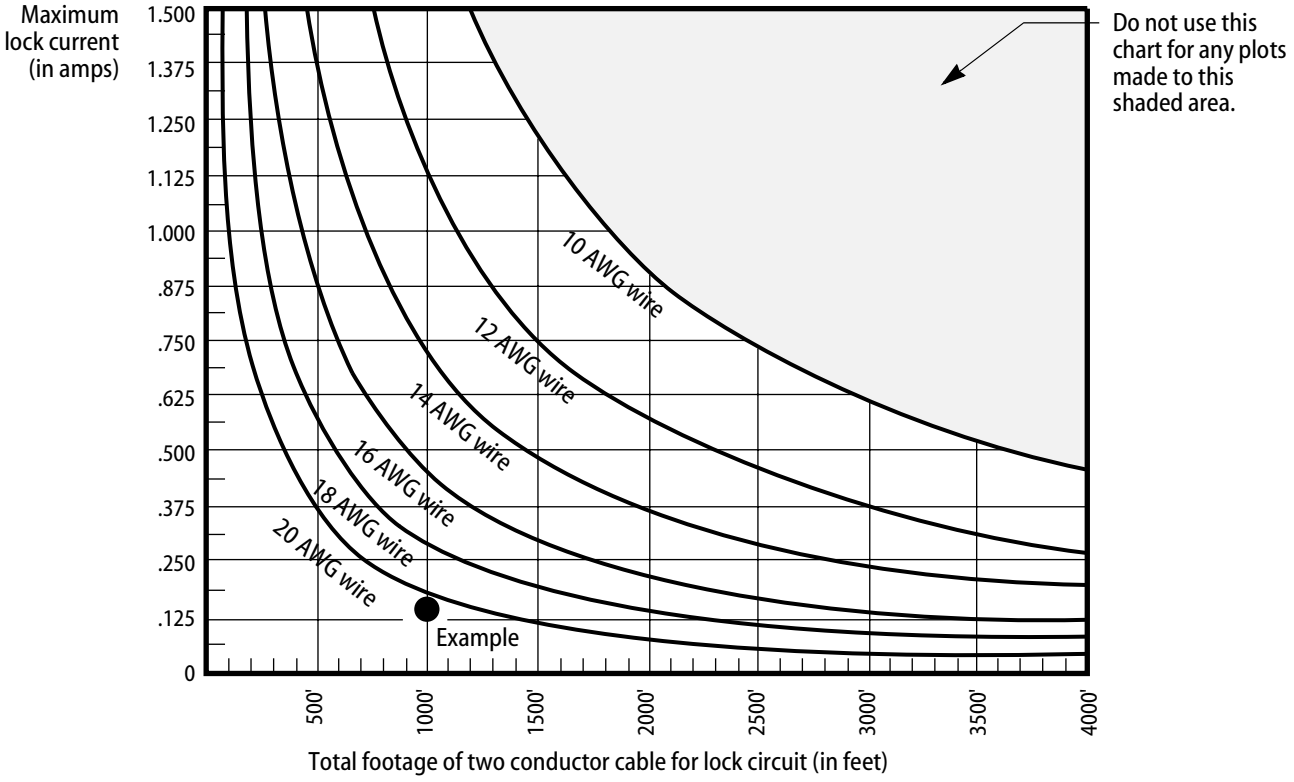


Figure 2—Minimum gauge wire chart for lock circuits

To find the correct gauge wire

1 Determine the maximum lock current and find that value on the left side of the chart.
2 Determine the total footage of cable to be used in the lock circuit and find that value at the bottom of the chart.
3 Locate the intersection of current and footage. The line above or to the right of the intersection shows what minimum gauge wire you need.

Example

▲ Lock current: 0.169 amp maximum
▲ Total wire run: 1000 feet

Wire gauge needed: 20 AWG two conductor cable

Note: *For 12 volt locks, double the maximum lock current, then use that value on the left side of the chart.*

Installation hints

1 Wire gauge (or size) determines how efficiently the lock will operate. Consider wire gauge before installation. To find the recommended minimum wire gauge for all wire runs, see Figure 2.
2 Use wire of 20 AWG (gauge) or larger. We do not recommend using a smaller wire gauge than 20 AWG.
3 When wiring two or more locks to a single power supply, make sure that the power rating of the power supply is 1 ½ times greater than the sum of the lock's power requirement.

Example

For two locks powered by one supply:

▲ Lock 1 (8K) is rated at 24 volts, 0.18 amps—24 volts × 0.18 amps = 4.32 volt-amps
▲ Lock 2 (35H) is rated at 24 volts, 0.75 amps—24 volts × 0.75 amps = 18 volt-amps

Choose a transformer with a rating of at least: (4.32 volt-amps + 18 volt-amps) × 1 ½ = **33.48 volt-amps**

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