SERVICE MANUAL

T SERIES

SERVICE MANUAL

BEST ACCESS SYSTEMS™

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Written and designed at Best Access Systems, 6161 East 75th Street, Indianapolis, Indiana 46250.

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INTERNAL COMPONENTS

MISCELLANEOUS PARTS

1 GETTING STARTED

The 8T Deadbolt Service Manual contains essential information to help you install and maintain your 8T deadbolt locks.

TECHNICAL SUPPORT

Support services

When you have a problem with the 8T deadbolt lock, your first resource for help is this 8T Deadbolt Service Manual. If you cannot find a satisfactory answer, contact your local BEST Representative.

Telephone technical support

Best Access Systems Representatives provide telephone technical support for all 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 page, www.BestAccess.com.

Training seminars

BEST provides training sessions for its customers. If interested, contact your local Representative for details.

2 8T OVERVIEW

INTRODUCTION

The Best 8T Series deadbolt locks meet or exceed the highest operational and security standards in the industry. Every part of the 8T series tubular lock is designed to precise tolerances and is made with the highest quality materials.

This manual covers the installation, operation, and maintenance of the 8T tubular locks. It contains exploded diagrams and part numbers of all internal components and trim components.

ANSI Standard compliance

8T deadbolt locks meet or exceed American National Standard BHMA/ANSI A156.5, Grade 1.

8T OVERVIEW

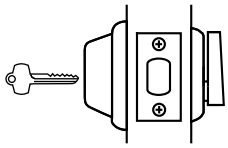
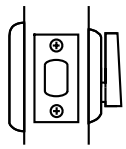
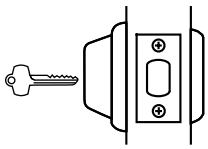
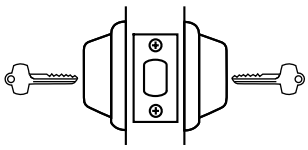
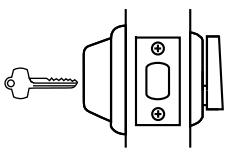
All 8T deadbolt locks have the following characteristics in common:

Lock characteristics

Feature	Description
Deadbolt	1" throw, 5/8" x 7/8" bolt
Faceplate	82T: 1" x 2 1/4" 83T: 1 1/8" x 2 1/4"
Backset	82T: 2 3/8" 83T: 2 3/4"
Trim	Wrought brass or bronze cylinder, rose, and thumbturn rose
Door thickness range	1 3/8" through 3"

FUNCTION DESCRIPTIONS

The table below summarizes how each of the five deadbolt lock functions operate.

Diagram	Function	ANSI No.	Fed. No.	Deadbolt operated by. . .
	K	E2151	181K	■ Turning the key in the outside cylinder, or ■ Turning the inside turn knob.
	KL	E2191	N/A	■ Turning the inside turn knob.
	L	E2161	181L	■ Turning the key in the outside cylinder The inside cylinder is blank.
	M	E2141	181M	■ Turning the key in the inside or outside cylinder. The inside mounting screws are concealed.
	S	E2171		■ Turning the key in the outside cylinder, or ■ Turning the inside turn knob. The turn knob only retracts the deadbolt—it cannot throw the deadbolt.

3 INTERNAL COMPONENTS

This section diagrams all 8T Series deadbolt exploded views. These diagrams detail all available replacement parts. To find a replacement part, first identify the lock function in question. Then identify the part you need and find its corresponding part number on the same page. For more information on 8T functions, see page 2–2.

K FUNCTION—DEADBOLT THUMBTURN

Item	Qty.	Part No.	Description
1	2	A23921	Trim screw
2	1	A23952	Turn knob rose
3	2	B23907	Clamp screw
4	1	A23906	Clamp plate[a]
5	1	C28561	2 3/8" Deadbolt
		C28560	2 3/4" Deadbolt
		C28563	2 3/8" Drive-in deadbolt
		C28562	2 3/4" Drive-in deadbolt
6	1	A21259	Cylinder rose
7	1	A21314	Cylinder ring
8	1	A23956	Outside cylinder

a. For applications that require lead shielding, insert the A23904 lead liner into the bored hole, behind the clamp plate.

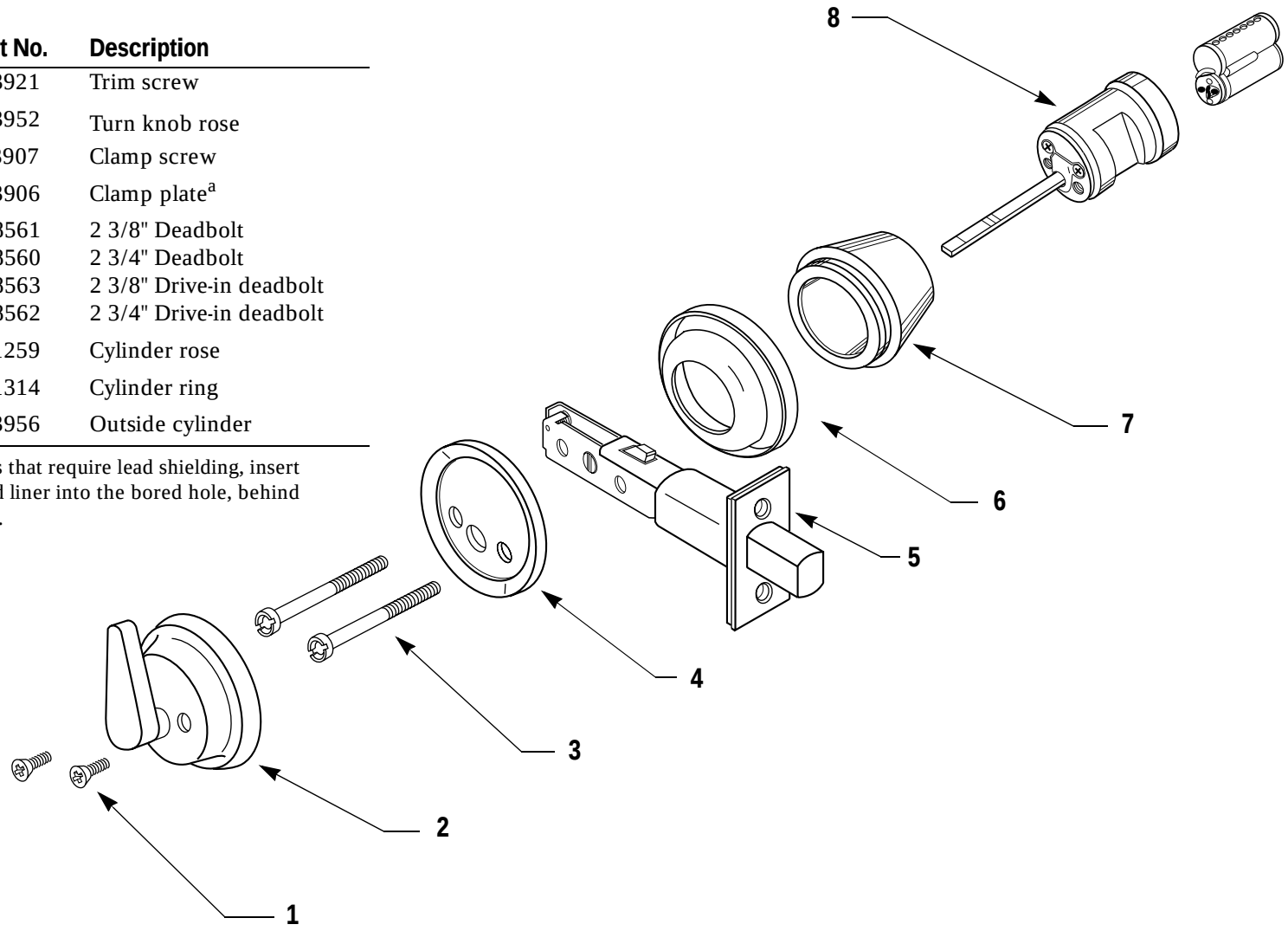


Figure 3.1 K function exploded diagram—deadbolt operated by outside key or inside thumbturn

K (CS) FUNCTION—THUMBTURN DEADBOLT WITH CONCEALED SCREWS

Item	Qty.	Part No.	Description
1	1	A23954	Turn knob rose
2	2	A21259	Cylinder rose[a]
3	1	C28561	2 3/8" Deadbolt
		C28560	2 3/4" Deadbolt
		C28563	2 3/8" Drive-in deadbolt
		C28562	2 3/4" Drive-in deadbolt
4	1	A21314	Cylinder ring
5	1	A23959	Outside cylinder
6	2	A23907	Clamp screw
7	1	A23909	Trim plate

a. For applications that require lead shielding, insert the A23904 lead liner into the bored hole, behind the inside cylinder rose.

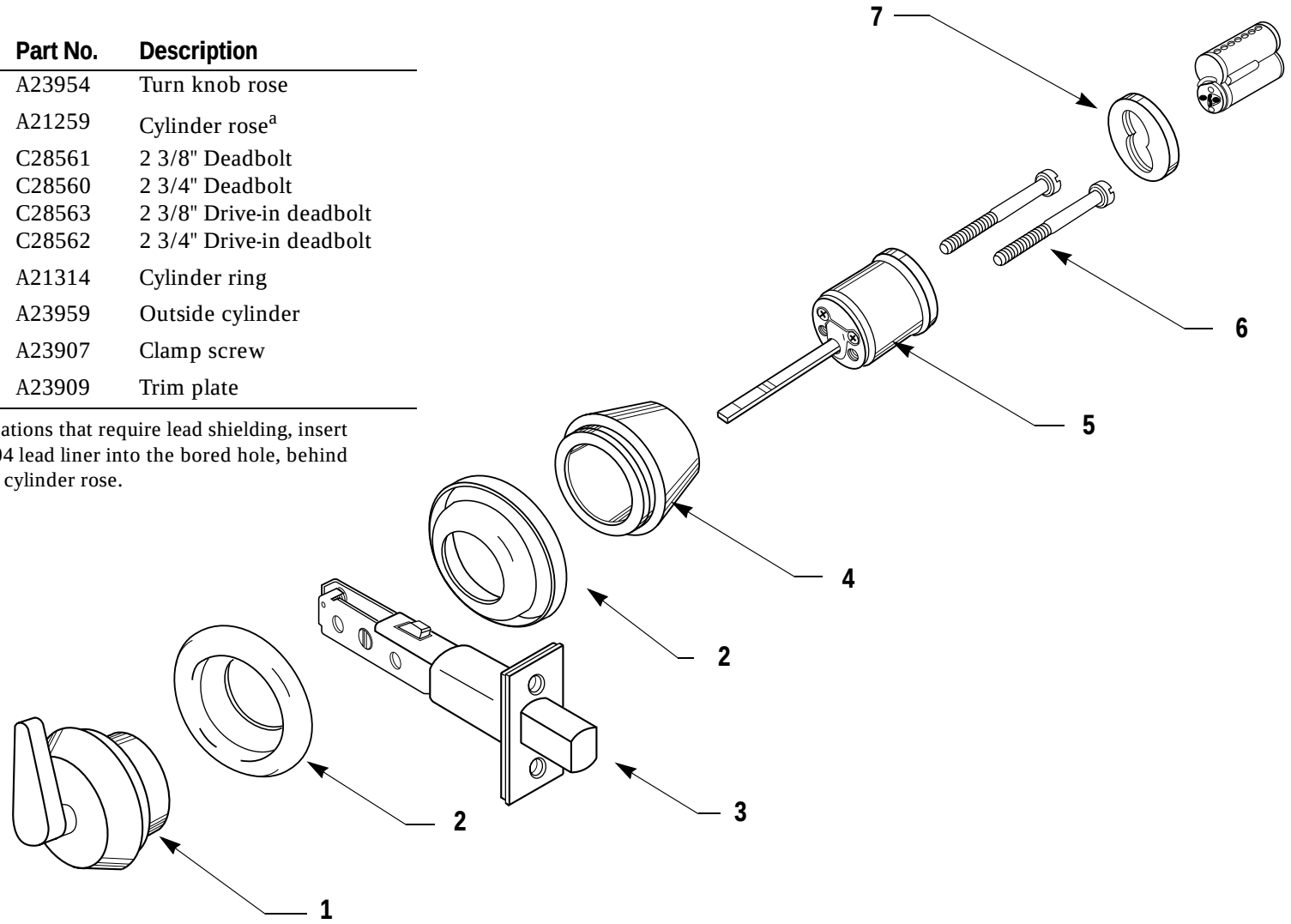


Figure 3.2 K function with concealed screws exploded diagram—deadbolt operated by outside key or inside thumbturn

L FUNCTION—ONE-WAY DEADBOLT

Item	Qty.	Part No.	Description
1	2	A23921	Trim screw
2	1	A23912	Blank rose
3	2	B23907	Clamp screw
4	1	A23906	Clamp plate[a]
5	1	C28561	2 3/8" Deadbolt
		C28560	2 3/4" Deadbolt
		C28563	2 3/8" Drive-in deadbolt
		C28562	2 3/4" Drive-in deadbolt
6	1	A21259	Cylinder rose
7	1	A21314	Cylinder ring
8	1	A23956	Outside cylinder

a. For applications that require lead shielding, insert the A23904 lead liner into the bored hole, behind the clamp plate.

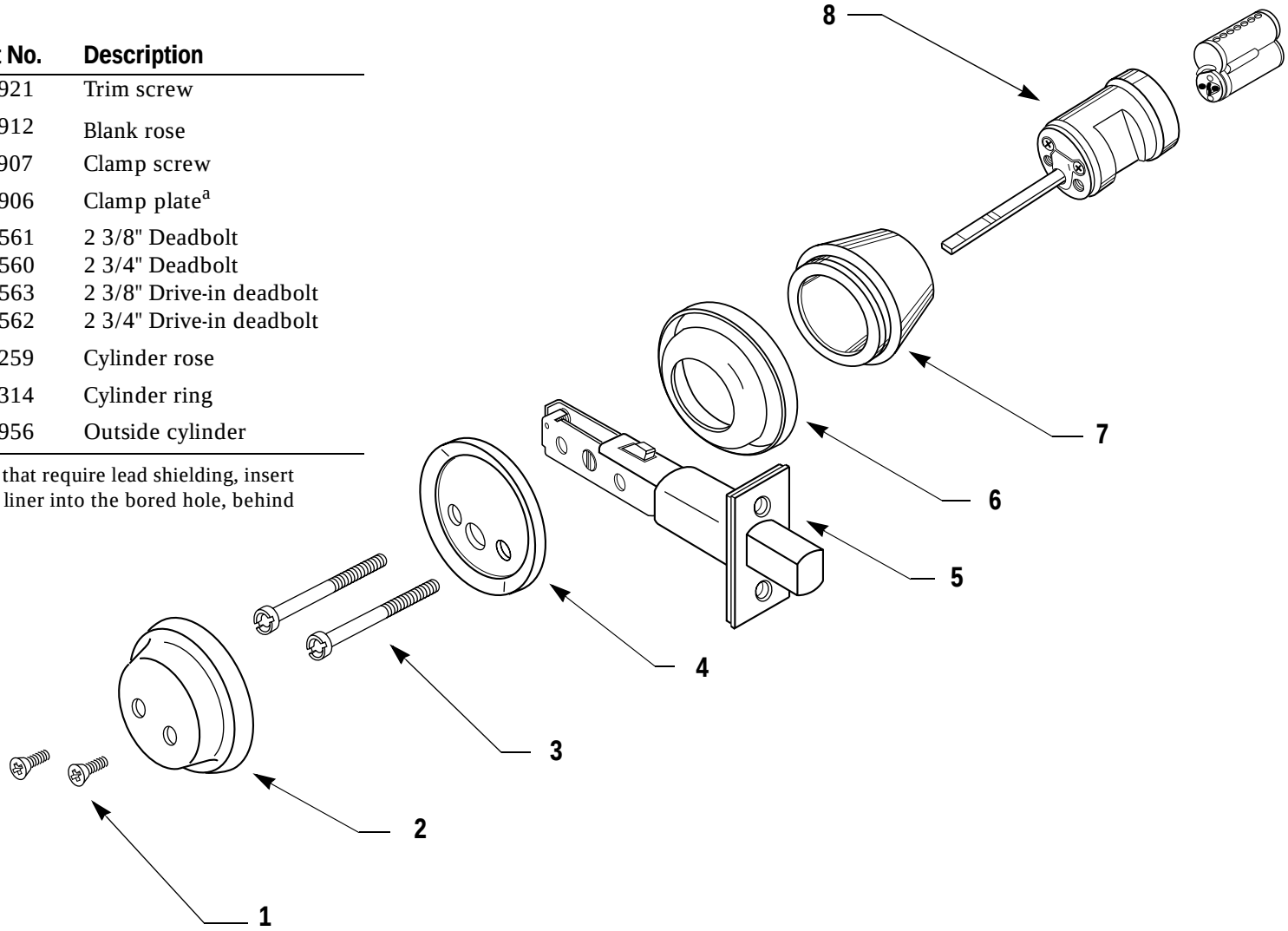


Figure 3.3 L function exploded diagram—deadbolt operated from one side only

L (CS) FUNCTION—ONE-WAY DEADBOLT WITH CONCEALED SCREWS

Item	Qty.	Part No.	Description
1	2	B23911	Blank rose
2	2	A21259	Cylinder rose[a]
3	1	C28561	2 3/8" Deadbolt
		C28560	2 3/4" Deadbolt
		C28563	2 3/8" Drive-in deadbolt
		C28562	2 3/4" Drive-in deadbolt
4	1	A21314	Cylinder ring
5	1	A23959	Outside cylinder
6	2	A23907	Clamp screws
7	1	A23909	Trim plate

a. For applications that require lead shielding, insert the A23904 lead liner into the bored hole, behind the inside cylinder rose.

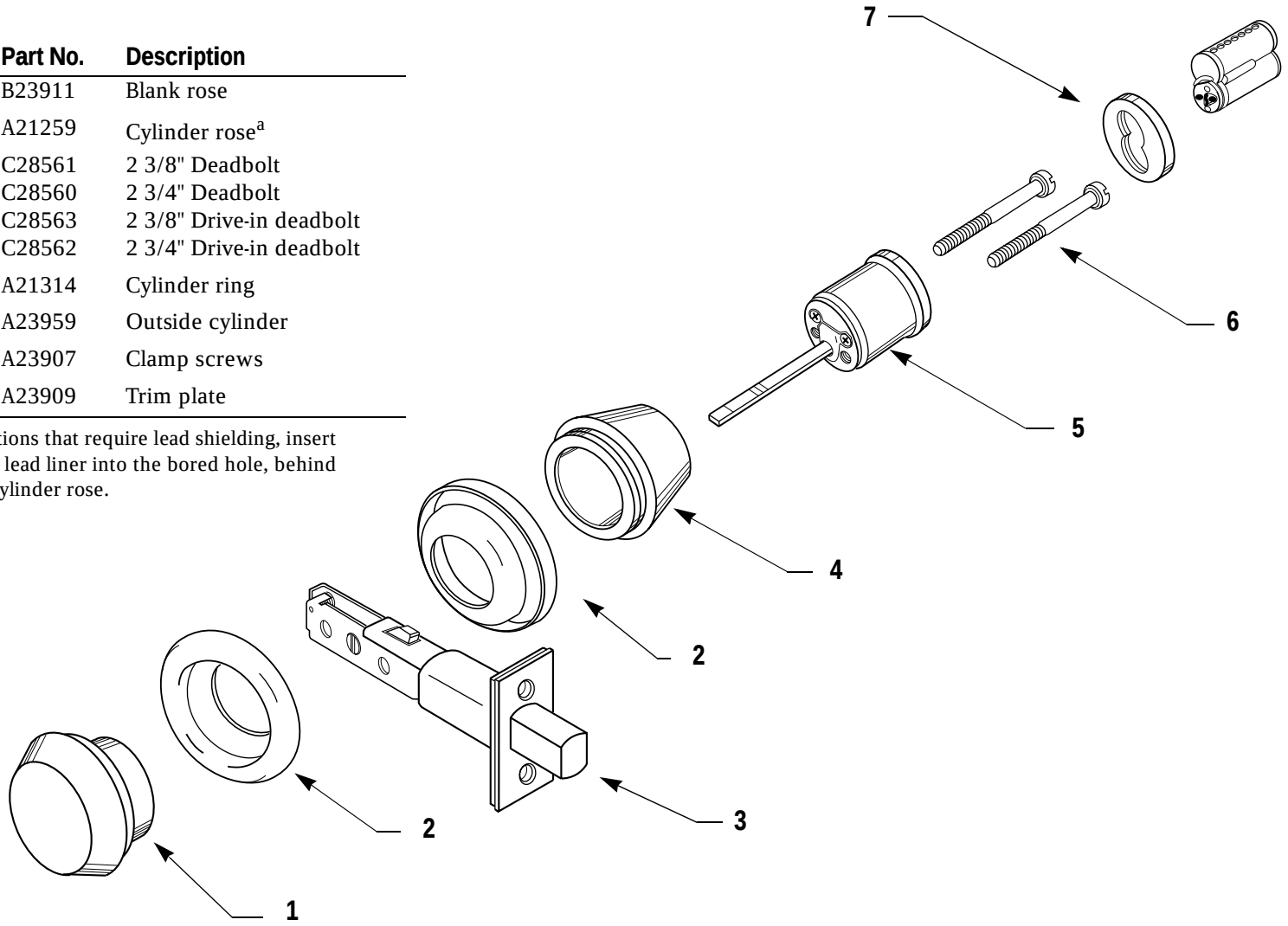


Figure 3.4 L function with concealed screws exploded diagram—deadbolt operated from one side only

M FUNCTION—DOUBLE CYLINDER DEADBOLT

Item	Qty.	Part No.	Description
1	1	A23909	Trim plate
2	2	A23907	Clamp screw
3	1	A23958	Inside cylinder
4	2	A21314	Cylinder ring
5	2	A21259	Cylinder rose[a]
6	1	C28561	2 3/8" Deadbolt
		C28560	2 3/4" Deadbolt
		C28563	2 3/8" Drive-in deadbolt
		C28562	2 3/4" Drive-in deadbolt
7	1	A23957	Outside cylinder

a. For applications that require lead shielding, insert the A23904 lead liner into the bored hole, behind the inside cylinder rose. For standard 1 3/4” doors, add one A23942 spacer ring to the trim on the same side as the lead liner.

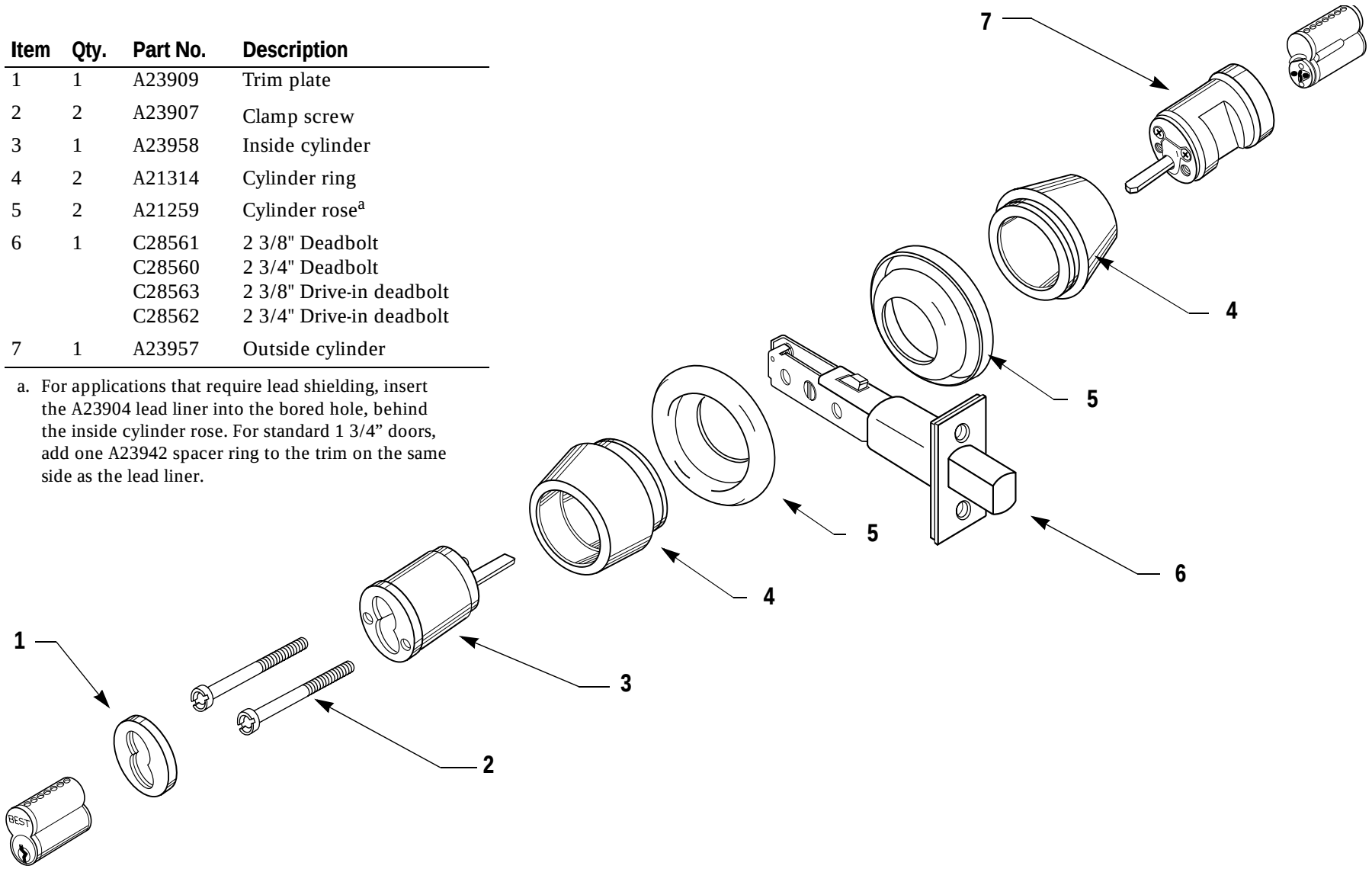


Figure 3.5 M function exploded diagram—deadbolt operated from either side—concealed mounting screws are standard.

S FUNCTION—CLASSROOM DEADBOLT

Item	Qty.	Part No.	Description
1	2	A23921	Trim screw
2	1	A23953	Turn knob rose
3	2	A23907	Clamp screw
4	1	A23906	Clamp plate[a]
5	1	C28561	2 3/8" Deadbolt
		C28560	2 3/4" Deadbolt
		C28563	2 3/8" Drive-in deadbolt
		C28562	2 3/4" Drive-in deadbolt
6	1	A21259	Cylinder rose
7	1	A21314	Cylinder ring
8	1	A23956	Outside cylinder

a. For applications that require lead shielding, insert the A23904 lead liner into the bored hole, behind the clamp plate.

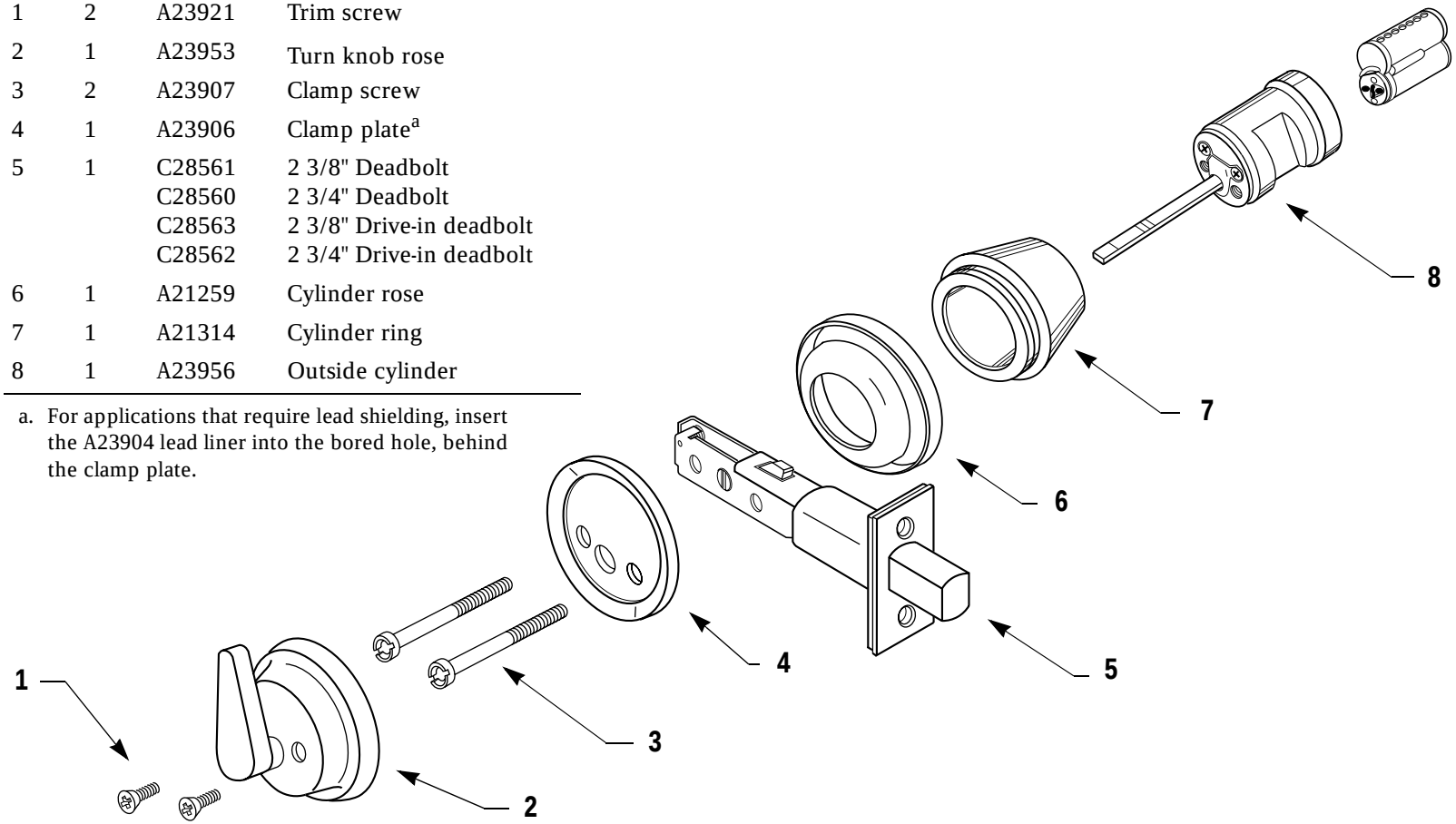


Figure 3.6 S function exploded diagram—deadbolt operated from outside by key. The thumbturn only retracts the deadbolt.

S (CS) FUNCTION—CLASSROOM DEADBOLT WITH CONCEALED SCREWS

Item	Qty.	Part No.	Description
1	1	A23955	Turn knob rose
2	2	A21275	Clamp stud
3	2	A21259	Cylinder rose[a]
4	1	C28561	2 3/8" Deadbolt
		C28560	2 3/4" Deadbolt
		C28563	2 3/8" Drive-in deadbolt
		C28562	2 3/4" Drive-in deadbolt
5	1	A21314	Cylinder ring
6	1	A23959	Outside cylinder
7	2	A23989	Clamp screw
8	1	A23909	Trim plate

a. For applications that require lead shielding, insert the A23904 lead liner into the bored hole, behind the inside cylinder rose.

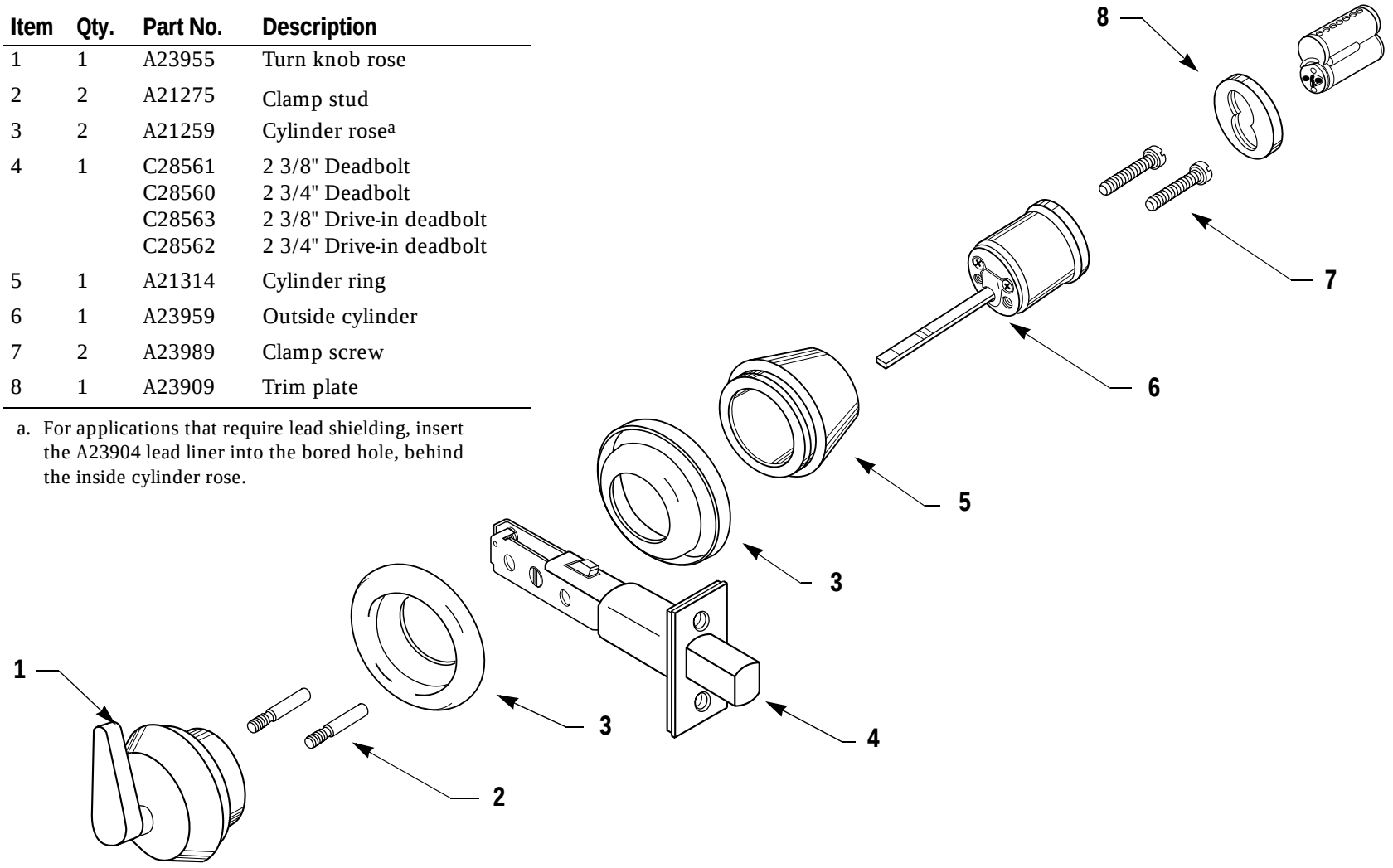


Figure 3.7 S function with exploded view diagram—deadbolt operated from outside by key. The thumbturn only retracts the deadbolt.

KL FUNCTION—ONE-WAY TURN KNOB DEADBOLT

Item	Qty.	Part No.	Description
1	2	A23921	Trim screws
2	1	A23952	Turn knob rose
3	2	A23907	Clamp screw
4	1	B21262	Spindle
5	1	A39194	Retaining ring
6	1	A23906	Clamp plate[a]
7	1	C28561	2 3/8" Deadbolt
		C28560	2 3/4" Deadbolt
		C28563	2 3/8" Drive-in deadbolt
		C28562	2 3/4" Drive-in deadbolt
8	1	A23942	Spacer ring
9	1	A21259	Cylinder rose
10	1	B23911	Blank rose

a. For applications that require lead shielding, insert the A23904 lead liner into the bored hole, behind the clamp plate.

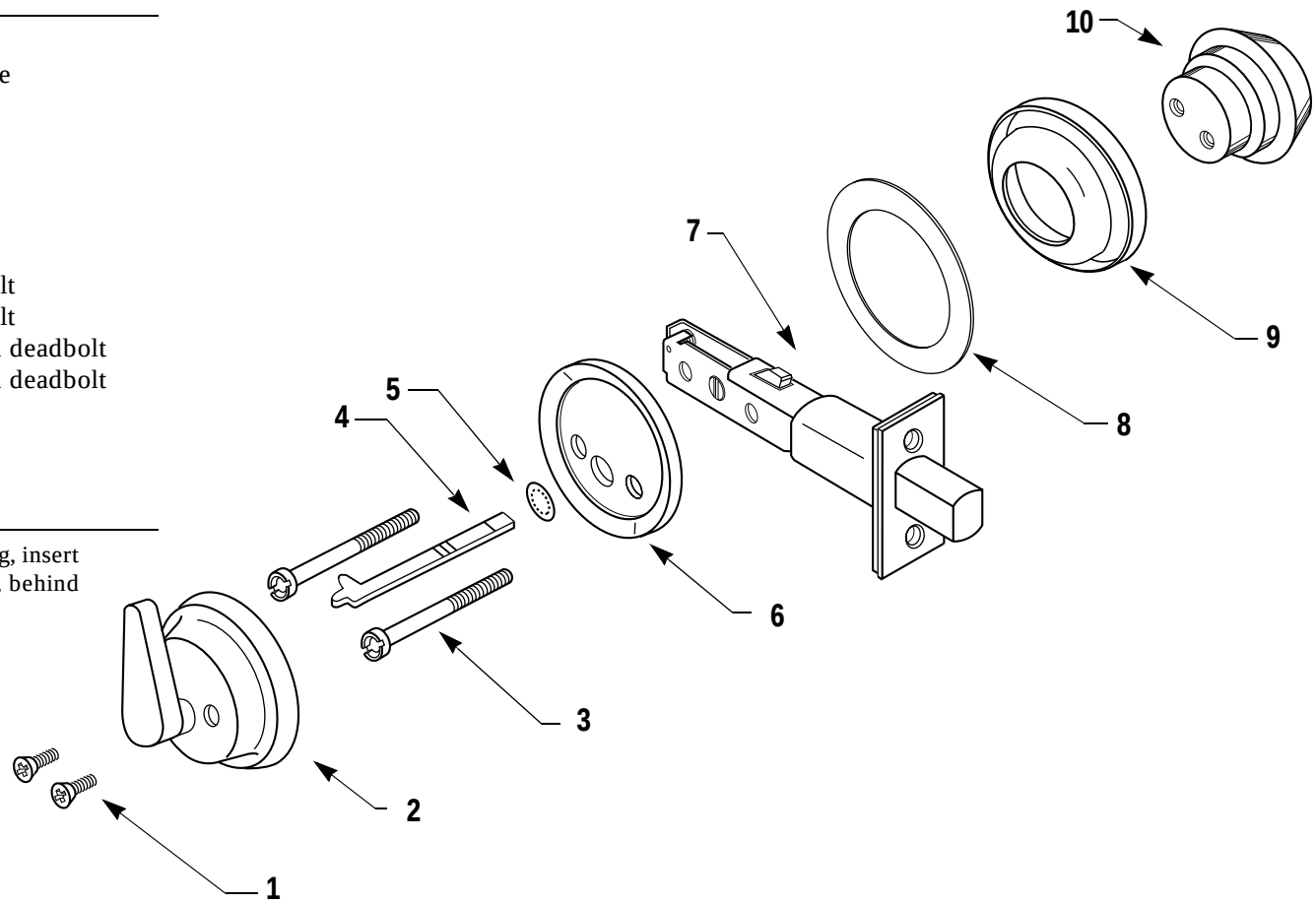


Figure 3.8 KL function with exploded view diagram—deadbolt operated by turn knob only.

4 MISCELLANEOUS PARTS

The following pages list all miscellaneous parts for the 8T deadbolt. These parts consist of strikes, strike boxes, screws, cylinder parts, and thick door parts.

STRIKES AND STRIKE BOXES

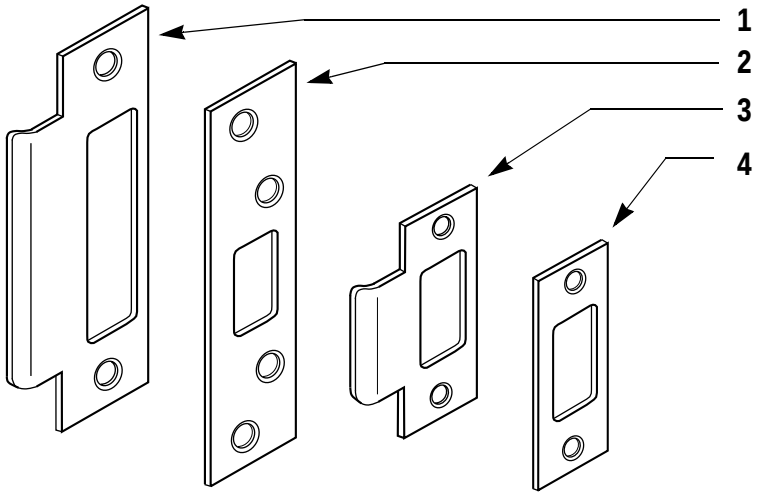


Figure 4.1 Strikes—see the table below for part numbers and descriptions.

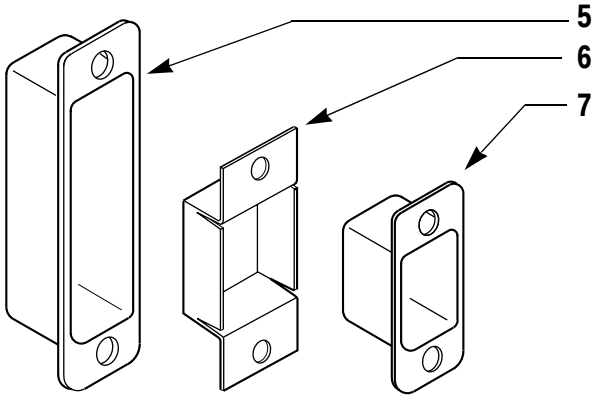


Figure 4.2 Strike boxes—see the table below for part numbers and descriptions.

Item	Nom–enclature	Description	Screw part no.[a]	Corresponding strike box no.
1	8TS1	ANSI deadbolt strike	A18724	B34380
2	8TS5	High security deadbolt strike	A28523[b]	B34380
3	8TS4	Lip deadbolt strike	A25359	B24026
4	8TSTK	Standard deadbolt strike	A25359	B24026
5	30HS4	ANSI strike box—plastic	N/A	N/A
6	8KS1	Standard strike box—metal	N/A	N/A
7	B24026	Standard strike box—plastic	N/A	N/A

a. Two screws are supplied with every strike unless otherwise noted.
b. The 8TS5 uses four (4) screws.

CYLINDERS

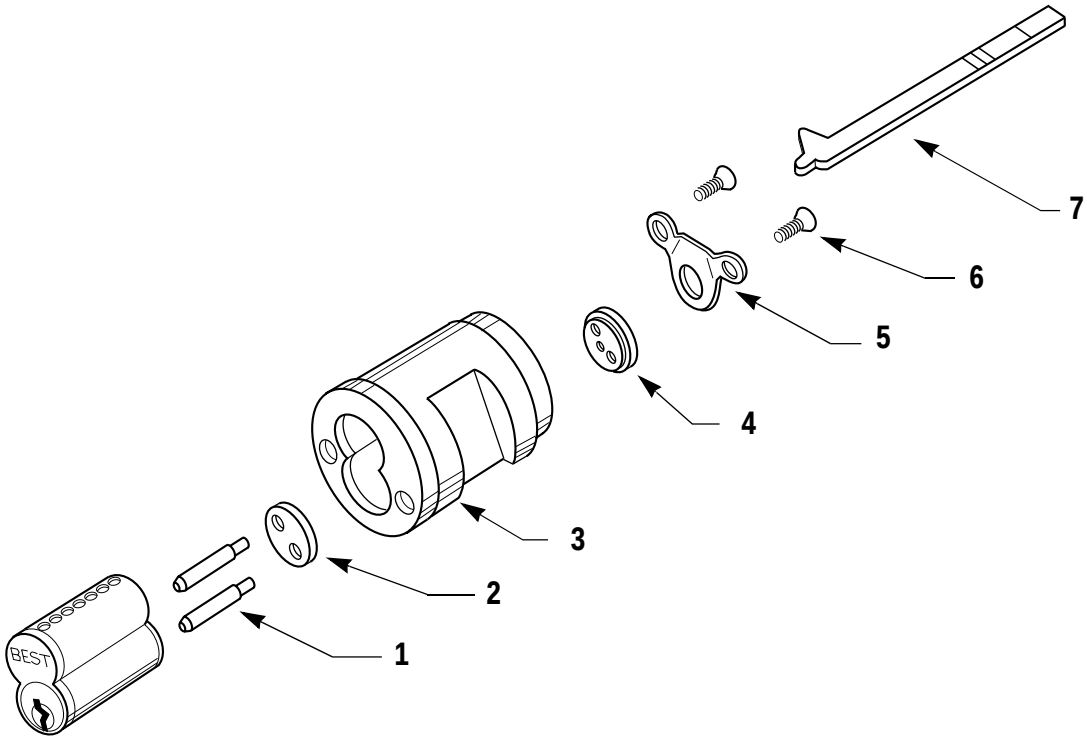


Figure 4.3 Exploded view of a standard 8T cylinder

Item	Qty.	Part no.	Description
1	2	A10470	Throw pin
2	1	A10390	Spacer[a]
3	1	C23901	Cylinder housing
4	1	A28521	Throw plug
5	1	A20941	Retainer
6	2	A14553	Retainer screw
7	1	A21262	Standard spindle[b]

a. To rivet the throw member parts to the cylinder, use the ED212 mortise tool.
b. For the M function use the A21264 spindle. See the thick door chart on page 4–4 for more information about various length spindles.

THICK DOOR PARTS—SPACER RINGS, SPINDLES, AND CLAMP SCREWS

When retrofitting a tubular deadbolt to a non-standard door thickness, two parts vary in length to accommodate the additional thickness. These parts are the spindle and the clamp screws. To find the correct parts for the door thickness, follow the table below.

Part	Door thickness	K	K(cs)	L	L(cs)	M	S	S(cs)	KL
Spacer ring	1 3/8"[a]	A23942	A23942	A23942	A23942	A23942[b]	A23942	A23942	A23942
	1 3/4"					A23942[c]			A23942
Spindle	1 3/8"	A21262	A21262	A21262	A21262	A21263[d]	A21262	A21262	A21262
	1 3/4"	A21262	A21262	A21262	A21262	A21264[d]	A21262	A21262	A21262
	2"	A21262	A21262	A21262	A21262	A21264[d]	A21262	A21262	A21262
	2 1/4"	A21262	A21262	A21262	A21262	A21288[d]	A21262	A21262	A21262
	2 1/2"	A21262	A21262	A21262	A21262	A21288[d]	A21262	A21262	A21262
	2 3/4"	A21262	A21262	A21262	A21262	A21289[d]	A21262	A21262	A21262
	3"	A24053	A24053	A24053	A24053	A21289[d]	A24053	A24053	A24053
Clamp screw[e]	1 3/8"	B23907	B23907	B23907	B23907	B23907	B23907	A23988	B23950
	1–3/4"	B23907	B23907	B23907	B23907	B23907	B23907	A23989	B23907
	2"	B23907	B61412	B23907	B61412	B61412	B23907	A24055	B23907
	2 1/4"	B61413	B61413	B61413	B61413	B61413	B61413	A24056	B61412
	2 1/2"	B61414	B61414	B61414	B61414	B61414	B61414	A24057	B61413
	2 3/4"	B23985	B23985	B23985	B23985	B23985	B23985	A24058	B61414
	3"	B61415	B61415	B61415	B61415	B61415	B61415	A24059	B23985

a. The lead liner (A23904) is available on all functions in all door thicknesses except the narrow 1 3/8" thick door.
b. For the M function, use two spacer rings on 1 3/8" thick doors.
c. For the M function with lead liner on standard 1 3/4" thick doors, add one spacer ring on the same trim side as the lead liner.
d. Use two spindles on all M functions.
e. Use two clamp screws on all functions.

5 GLOSSARY

Auxiliary lock — A lock having a latchbolt or deadbolt operated by a key or a thumbturn or both. This type of lock is often used in conjunction with another lock which may or may not be key operated, but has a latchbolt operated by knobs or levers.

Bored deadlock — A lock that fits round, bored holes drilled into the face and edge of a door. Bored deadlocks have a deadbolt operated by a key or thumbturn or both.

Chassis — The internal frame of the lock.

Deadbolt lock — A lock having a bolt whose end protrudes from and retracts into, the lock front. When the door is closed and the deadbolt thrown, the deadbolt extends into a hole provided in the strike, locks the door, and does not retract when pressure is applied to the end.

Drive-in deadbolt — A deadbolt that is installed by hammering it into the edge of the door.

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

Spindle — A bar that projects from the back of a cylinder that engages the lock mechanism. When the spindle is rotated by the key or thumbturn, it either locks or unlocks the lock. Also called “tailpiece.”

Strike A plate fastened to the door frame that the bolt projects into.

Strike box A housing used in back of a strike to enclose the bolt or bolt openings.

Thumbturn The component that projects or retracts a deadbolt operated by grasping and turning. Also called “turn knob” or “turnpiece.”

Tubular The shape (tube-like) of the lock chassis and bolt enclosure.

6 INDEX

P

S

T

A INSTALLATION INSTRUCTIONS

The following pages contains the *Installation Instructions for 82T – 83T Deadbolt Locks.*

Installation Instructions for 82T–83T Deadbolt Locks

1 Center punch the drill points

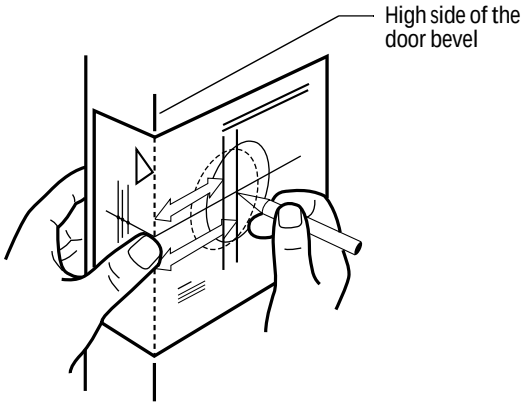


Figure 1 Positioning and marking with the template

1 Place the template at the desired height, on the high side of the door bevel.
2 Tape the template to the door.
3 Center punch the drill points.

2 Bore two holes

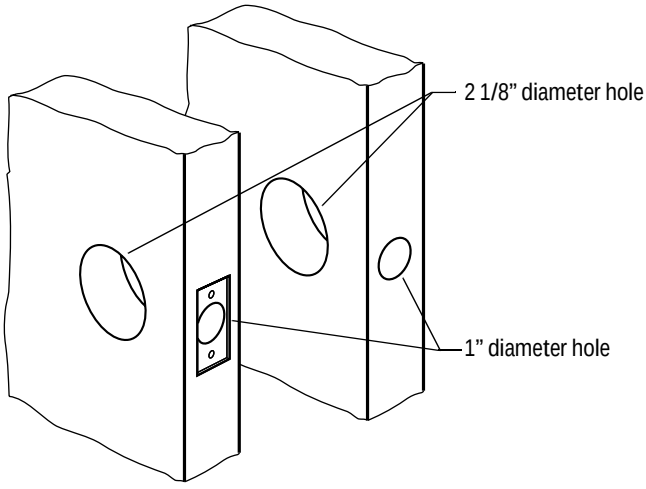


Figure 2 Holes for standard and drive-in deadbolts

1 Bore a 2 1/8" diameter hole. To avoid splintering a wood door, bore the hole from both sides of the door.
2 Drill a 1" diameter hole from the edge of the door that intersects the 2 1/8" hole.

For deadbolts with faceplates

- Using the deadbolt faceplate as a guide, mortise the edge of the door to recess the faceplate.

3 Install strike plate

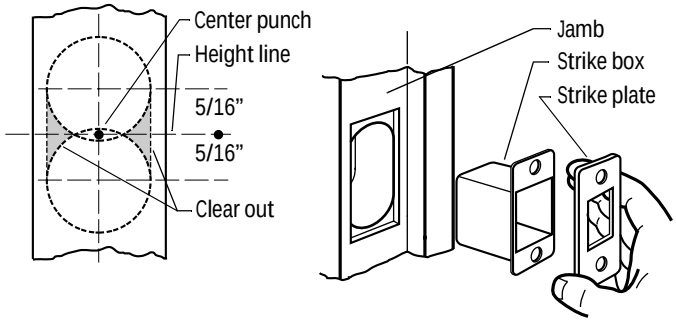


Figure 3 Installing the strike

1 Center punch the jamb directly opposite the bolt hole in the door. See Figure 3.
2 Drill two 1" diameter holes, located 5/16" above and below the center punch to a depth of 1 1/8".

Note: *For S1 strike plates only, drill two additional 1" diameter holes located 15/16" above and below the center punch. Clear out the material between the holes.*

3 Using the strike as a guide, mortise the jamb and install the strike box and strike plate as shown in Figure 3.

4 Install deadbolt assembly

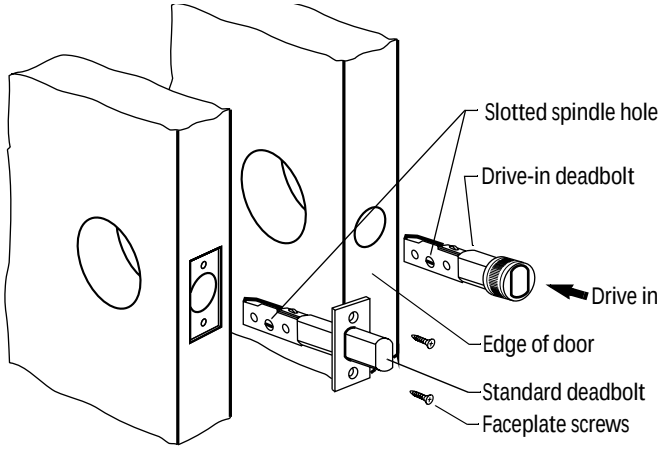


Figure 4 Installing the standard and drive-in deadbolts

For standard deadbolts

1 Insert the standard deadbolt with the slotted spindle hole at the bottom of the assembly as shown in Figure 4.
2 Secure the standard deadbolt to the door with the faceplate screws.

For drive-in deadbolts

1 Make sure the drive-in deadbolt is in the retracted position.
2 Insert the deadbolt into the door with the slotted hole at the bottom of the assembly. See Figure 4.

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3 Using a hammer and wooden block, lightly drive the deadbolt into the hole until the face of the deadbolt is flush with the edge of the door.

5 Install cylinder or cylinders

For 1 3/8" thick doors only

- Slip the spacer ring behind the outside cylinder and trim assembly as shown in Figure 5.

  Note: *Use two spacer rings for M function deadbolts, one behind the outside cylinder and the other behind the inside cylinder.*

For single-keyed cylinder deadbolts except 'S' (classroom) functions

1 Extend the bolt with a screwdriver.
2 Install the cylinder and trim assembly with the spindle in the **vertical** position as shown in Figure 5.

For non-keyed KL functions

1 Extend the bolt with a screwdriver.
2 Slip the spacer ring behind the outside rose.

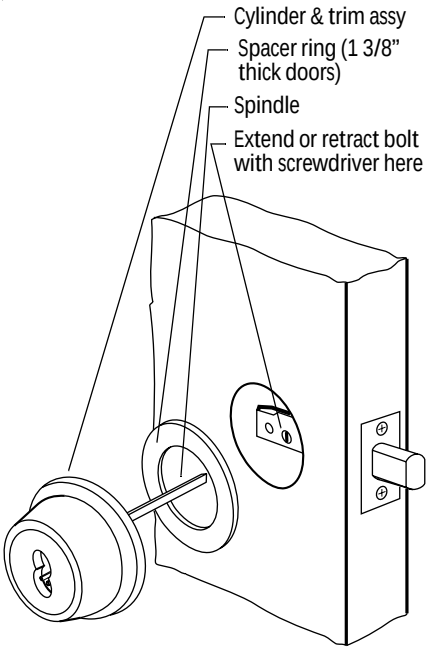

Figure 5 Installing the cylinder and trim assembly

For 'S' (classroom) function deadbolts

1 Retract the deadbolt with a screwdriver.
2 Install the cylinder and trim assembly with the spindle in the **horizontal** position.

For double-keyed cylinder deadbolts ('M' function)

1 Extend the bolt with a screwdriver.
2 Install each cylinder with its ring and rose as shown in Figure 6.

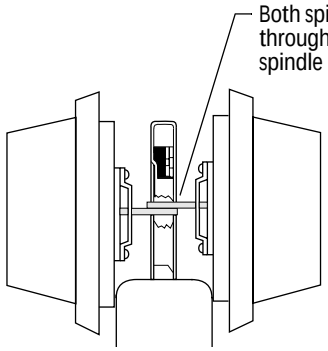

Figure 6 Side view of a double-keyed deadbolt

6 Attach inside trim

For standard mounting screws

1 Secure the cylinder to the door with the clamp plate and mounting screws as shown in Figure 7.

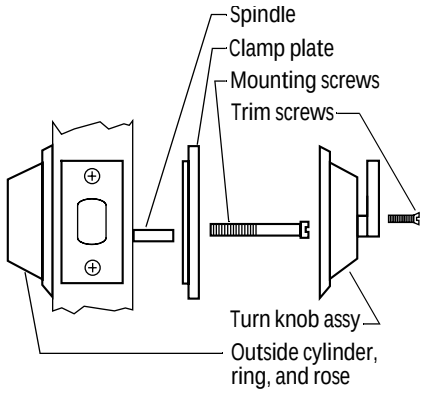

Figure 7 Standard trim mounting

2 Break the spindle at the appropriate notch to suit the installation.
3 Slide the turn knob assembly over the spindle and secure it with the trim screws supplied.

For concealed mounting screws

1 With the inside rose and turn knob unit in place, put the two mounting screws through the outside cylinder as shown in Figure 8.

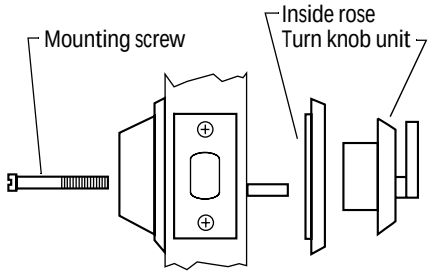

Figure 8 Concealed trim mounting

2 Break the spindle at the appropriate notch to suit the installation.
3 Screw the mounting screws into the back of the turn knob unit.

7 Install core or cores

For double-keyed deadbolts or deadbolts with concealed screws

- To cover the mounting screw holes, put the cylinder face into the ring. See Figure 9.

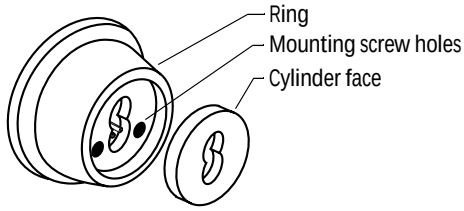

Figure 9 Installing the cylinder face for double-keyed deadbolts and deadbolts with concealed screws

For all deadbolt locks

1 Put the control key into the core and turn the key 15 degrees clockwise as shown in Figure 10.

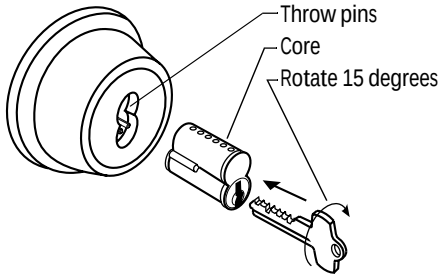

Figure 10 Installing the core on standard deadbolts

2 Adjust the throw pins if needed, then put the core into the cylinder with the control key.
3 Turn the key 15 degrees counterclockwise and remove the key.

Caution: **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 from the inside could be hazardous or even fatal.**

Patents

Products are covered by one or more of the following patents:

U.S. Patents

D290085, 4444034, 4424693, 4386510, 4294093, 4301667, 4655063, 4843852

Other patents pending.