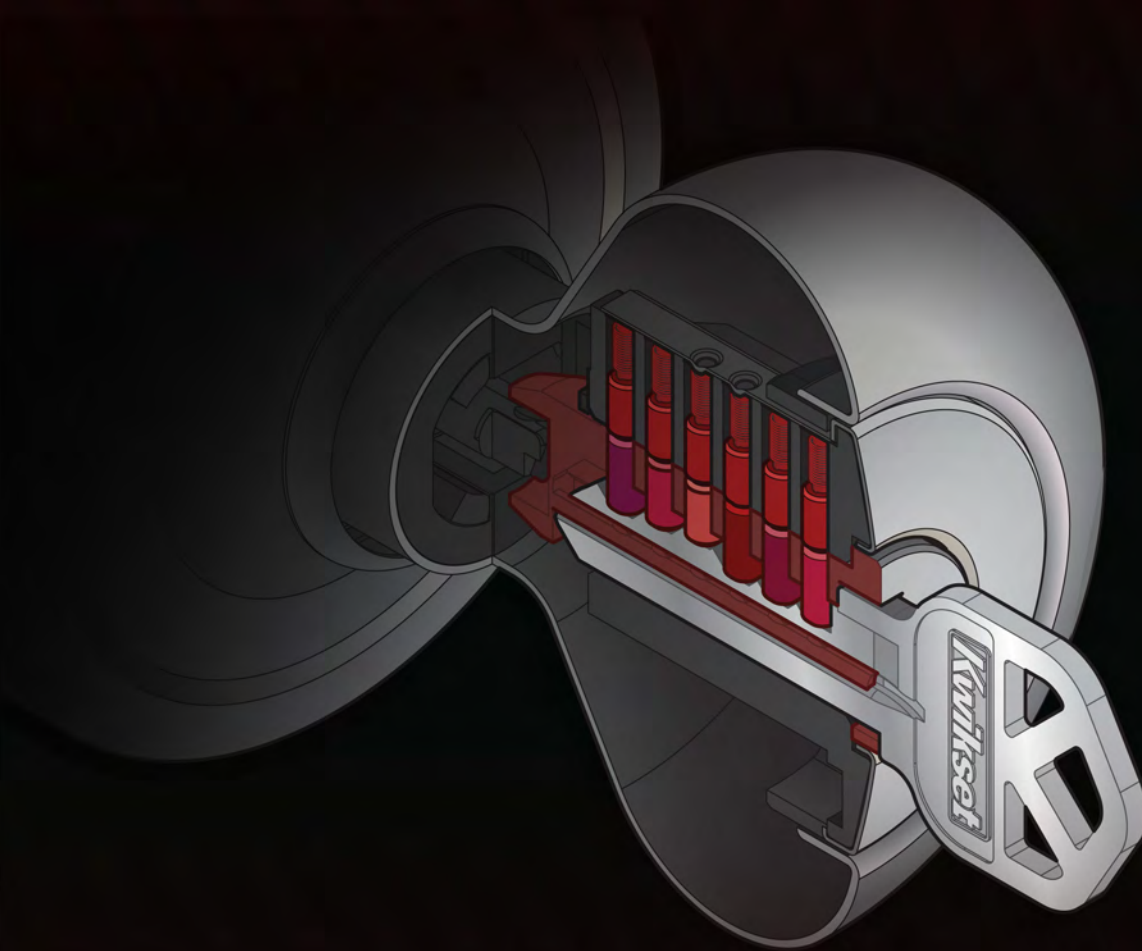


Kwikset®



REKEYING MANUAL

Kwikset Customer Service
1-800-422-4278
6:30AM-4:30PM PST, Monday-Friday
www.kwikset.com

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

49523 / 01

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Glossary of Terms

bitting key cuts that form the combination

blade the portion of a key and/or milling

bow the portion of the key which serves as a grip or handle

bow stop a type of stop located near the key bow

chamber any cavity in a cylinder plug and/or shell which houses the pins and springs

control key allows removal of cylinder without dismantling lock

cylinder assembly holds the plug, pins, springs and cover

cylinder guard heavy duty cover for cylinder housing

cylinder housing contains the cylinder assembly

cylinder removing tool for removing and replacing plug retainer

gauge the act of determining the bitting of the key

handing the orientation of the knob, handle, or lever with respect to a left or right sided door

lever catch spring mounted piece, holds lever in place

locking bar prevents removal of cylinder without control key use or retainer removal

mechanism module keyed entry lockset assembly for new keyed handlesets

PK balls small steel balls used during Protecto Keying, allow new homes to be keyed to a builder's key, and once homeowner uses their key, builder is locked out

plug holds the bottom pins and keyway

plug follower used to push the plug out and hold top pins and springs in place while rekeying plug

plug retainer "C" style clip, holds plug in cylinder housing

shear line when the bottom pins are correct, a shear line is created when the proper key is inserted, allowing rotation of plug

shield for additional security on exterior knobs

sleeve assembly holding cylinder and lever

spindle metal rod connecting the interior and exterior assemblies of a knob or lever that rotates part of the latch, allowing it to extend and retract; two types: a round and half-round spindle

spring cover snap on cover to hold pin springs in place

spring housing holds return spring for lever or knob in place

tailpiece spindle-like extension for deadbolts

thumbpiece pin holds the handleset's thumbpiece in place

How a Pin and Tumbler Lock Works

Kwikset pin and tumbler locks operate by matching the cuts on the keys with the bottom pins inside the cylinder plug. In a 5-pin system, there are two sets of five pins in each lock, top and bottom, and a set of springs. The top pins are all the same size and are flat on both ends. The bottom pins vary in length (in .023" increments) and are tapered on both ends.

For the lock to work, the cuts of the key must enable the tops of all five bottom pins to be flush with the cylinder plug. This is called a shear line.

Many Kwikset locks contain a 6-pin cylinder, which functions in the same way as a 5-pin system, with the addition of an extra top and bottom pin and spring. A comparison of 5-pin and 6-pin systems can be found on page 10.

In Figure 1, the correct key has been inserted into the cylinder, forcing all the pins to line up and form the shear line.

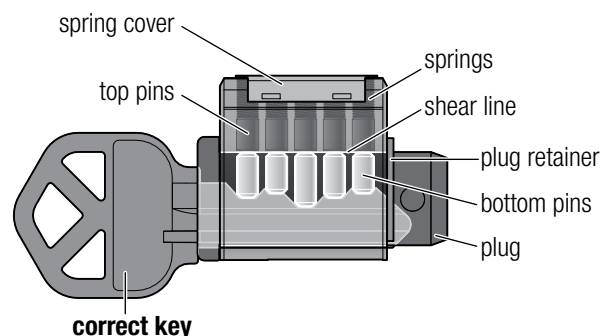


Figure 1. Correct Key Inserted

In Figure 2, the key has been removed from the cylinder. There is no shear line because the pins have settled into the bottoms of their individual chambers.

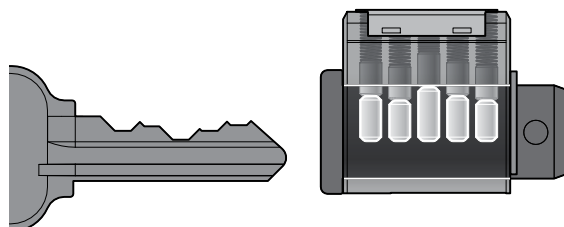


Figure 2. Key Removed

In Figure 3, there is no shear line because an incorrect key has been inserted into the cylinder. This key won't operate the lock.

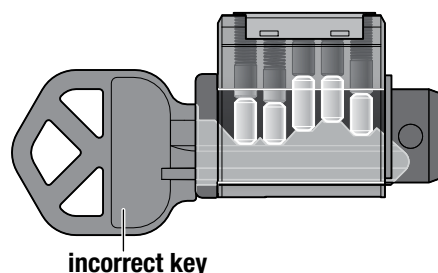
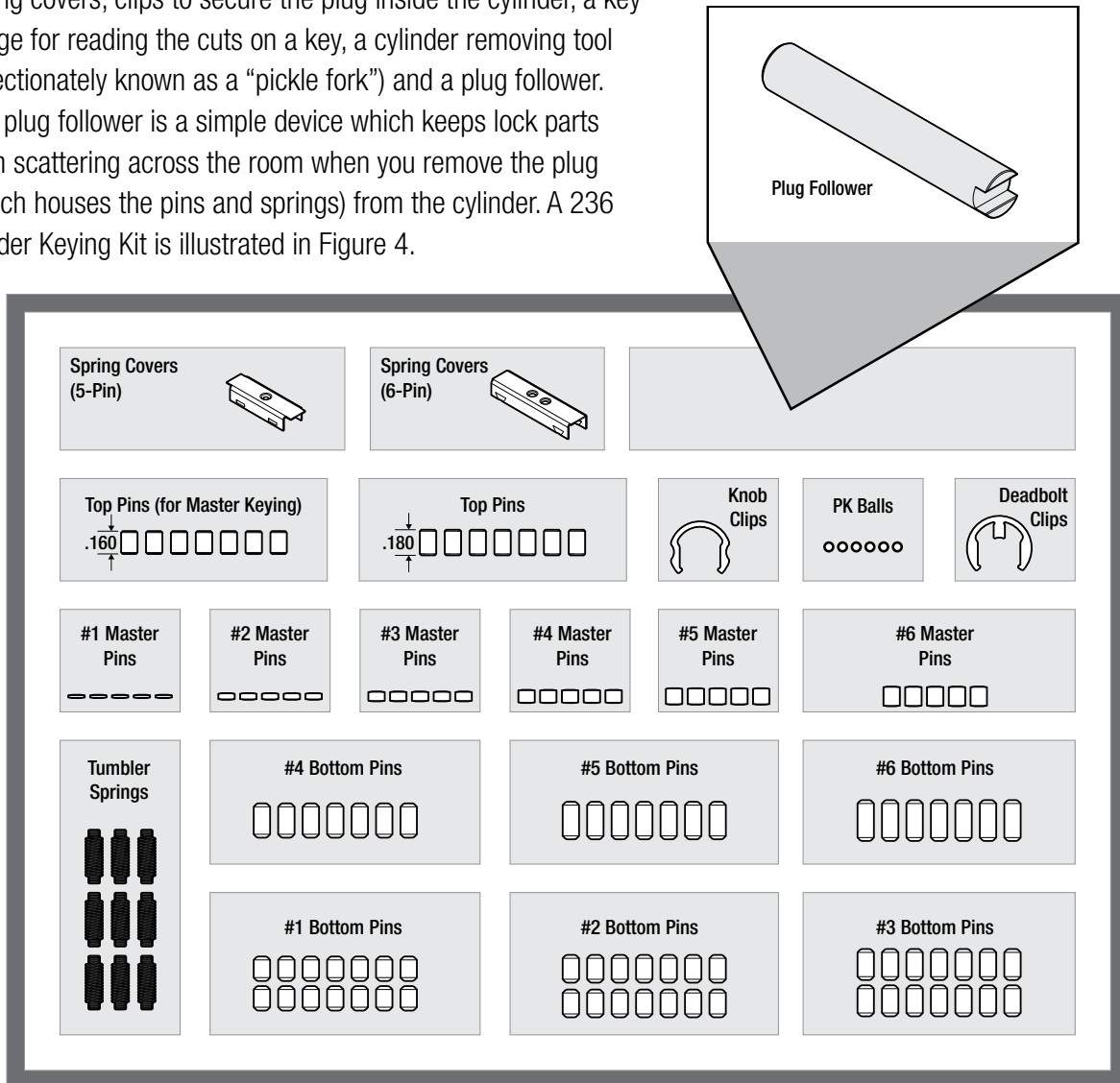


Figure 3. Incorrect Key Inserted

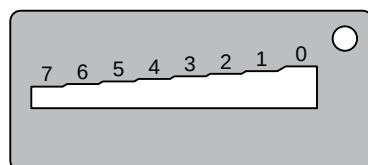
When you rekey a lock, you simply replace the bottom pins according to the cut combination of the key you want to use. And you can do all this with a few very simple tools.

Tools to Rekey

Among the contents of a Kwikset Keying Kit, you will find the different pin sizes you will need to rekey a lock, springs and spring covers, clips to secure the plug inside the cylinder, a key gauge for reading the cuts on a key, a cylinder removing tool (affectionately known as a “pickle fork”) and a plug follower. The plug follower is a simple device which keeps lock parts from scattering across the room when you remove the plug (which houses the pins and springs) from the cylinder. A 236 Builder Keying Kit is illustrated in Figure 4.



Cylinder Removing Tool



Key Gauge

Figure 4. Tools to Rekey

How to Gauge a Kwikset Key

Before you can rekey a lock, you have to know what pins to use. For security reasons, Kwikset doesn't print key cut combinations on the packaging. A key gauge should be used to determine the key cut combinations (Figure 5).

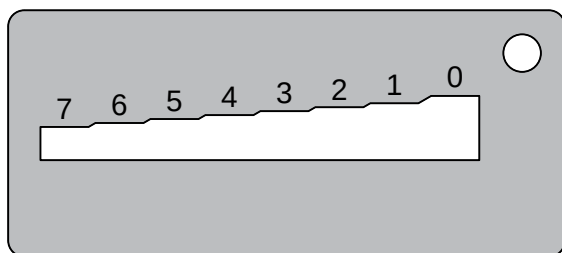


Figure 5. Key Gauge

To measure a key with a key gauge, hold the new key (the key that you want to operate the lock) by the bow and slide it into the gauge. You must always gauge a key starting with the first cut closest to the bow. See Figure 6.

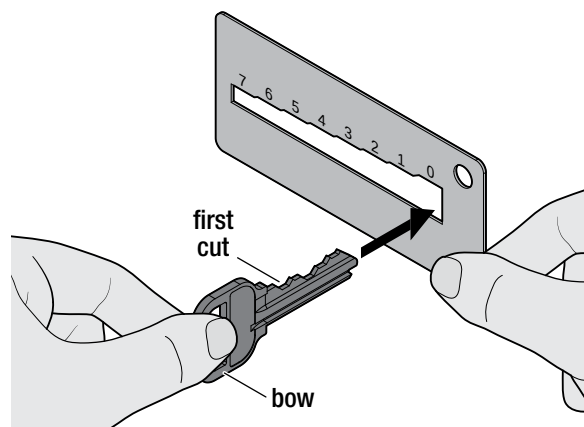


Figure 6. Gauging a Key

Position the flat portion of the first cut so it is even with the "0" position of the gauge, then slide it to the left until it stops at the correct "step" of the gauge. The number to the **right** of the key is the number of the cut. Write down this number. In Figure 7, the first key cut is a 4.

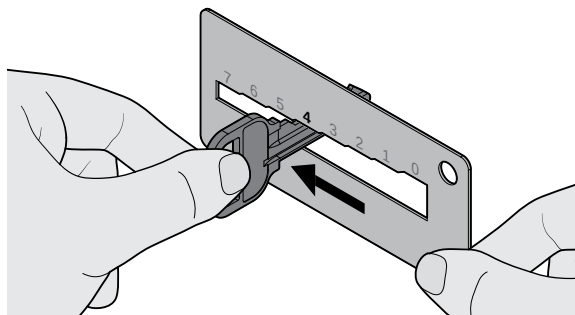


Figure 7. First Key Cut

Repeat this procedure for all the cuts of the key to obtain the 5 or 6-digit combination. The example key in Figure 8 has a combination of 4-3-6-4-3.

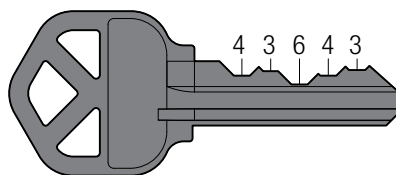


Figure 8. Key with a 4-3-6-4-3 Combination

When the time comes to re-pin the lock, use this combination to determine which bottom pins are needed. The numbers of the key cuts correspond to the numbered bottom pins in your keying kit.

5-Pin vs. 6-Pin Systems

While 5-pin and 6-pin systems essentially function in the same way, there are a few differences to note:

- When gauging a 6-pin key, the first position is called the 0-position. See Figure 9.

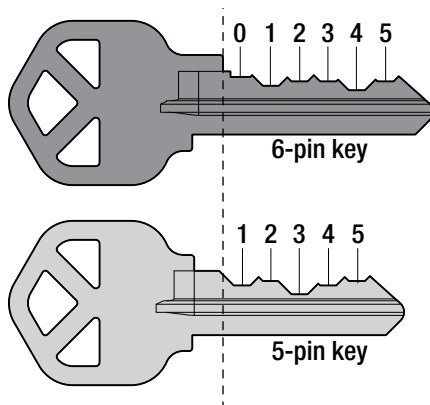


Figure 9. Comparing a 5-pin and 6-pin key

- Aside from the number of cuts on the key, it's simple to determine if a key is a 5-pin or 6-pin key at a glance: A 6-pin key has a longer keystop on top.

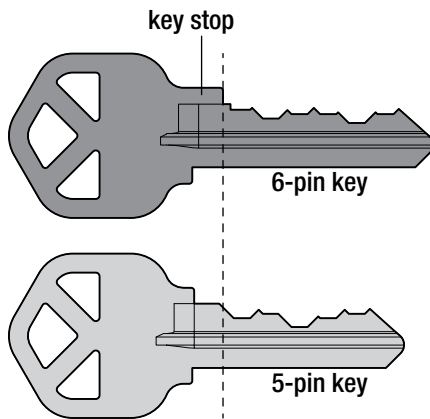


Figure 10. Longer key stop on a 6-pin key

A 5-pin plug can be repinned to accommodate a 6-pin key. In Figure 11, notice that the 0-position on the key is not used. When gauging a 6-pin key for use in a 5-pin plug, do not gauge the 0-position.

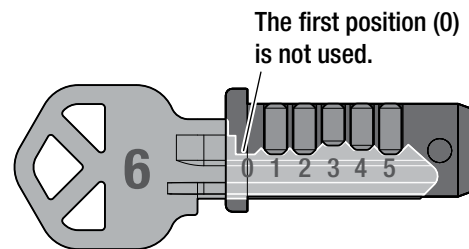


Figure 11. 6-pin key in 5-pin plug

A 6-pin plug can accommodate a 5-pin key. In Figure 12, notice that the last chamber of the 6-pin plug is not used.

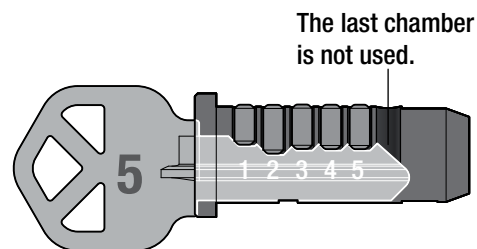


Figure 12. 5-pin key in 6-pin plug

Master Keying Kwikset Locks

Master keying refers to the keying procedure that makes one lock work with two or more key cut combinations. The master key will be able to open all locks in a complex, and the other key (the tenant key) will only be able to open one lock in the complex. The right combination of bottom pins and master pins will produce a shear line for both keys.

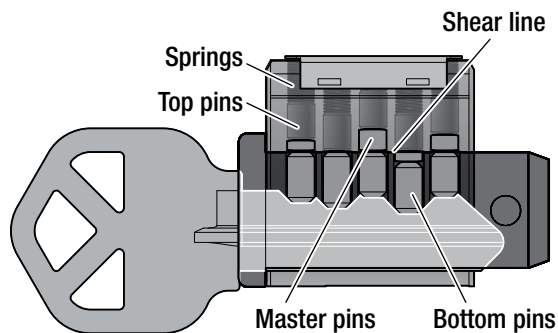


Figure 13. Master keyed Lock

The first step in master keying is to gauge both keys and write down both combinations. See the example in Figure 14.

Master key 3 4 2 5 2
 Tenant key 5 4 6 3 5

Figure 14. Gauging both keys

Circle the smallest number of each cut. These numbers will be the bottom pins required in the lock.

Master key ③ 4 ② 5 ②
 Tenant key 5 ④ 6 ③ 5

Figure 15. Determining bottom pins

Next, find the difference between each cut. These numbers will be the required master pins.

Note: a "0" means that no master pin is used in that position.

Master key ③ 4 ② 5 ②
 Tenant key 5 ④ 6 ③ 5
 Master pins 2 0 4 2 3

Figure 16. Finding the difference between cuts

Deep and Shallow Master Keying

Any key can be used as a master key. Often, master keys are ordered with only shallow cuts or only deep cuts. See Figure 17.

Note: A #7 cut is reserved only for builders' keys.

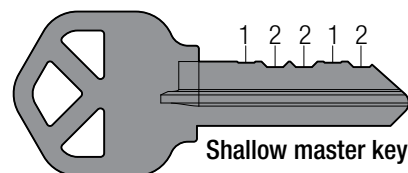
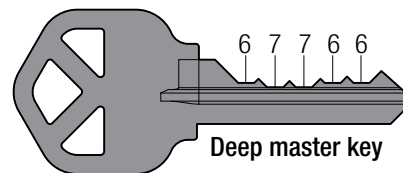


Figure 17. Deep and Shallow Master Keys

By using a deep master key where all cuts are 6's and 7's, all the bottom pins will match the key cuts of the tenant key. See Figure 18.

Master key 6 7 7 6 6
 Tenant key ③ ⑤ ④ ④ ④

Figure 18. Deep master keying bottom pins

Using a shallow master key where all cuts are 1's and 2's will require that the bottom pins match the master key's cuts.

Master key ① ② ② ① ②
 Tenant key 3 5 4 4 4

Figure 19. Shallow master keying bottom pins

Once the bottom pins and master pins have been determined, the lock will need to be disassembled and all of the top pins and springs will need to be replaced. See the master keying procedures on the following pages for more complete instructions.

Levels and Types of Keying

The basic master keying procedure described previously provides two levels of keying because two different key cut combinations open the lock. A lock with one level of keying will only allow one key cut combination to open it. These two types are the primary focus in this manual, but several more are described below.

Protecto Keying — Protecto Keying is a two level keying procedure that is used for new construction. The lock will work with a builder's key during construction and will become invalid after construction once the homeowner's key is used in the lock. To accomplish this type of keying, three steel PK balls (located in the keying kit) must be used in place of a #2 master pin. The builder's key will have a cut two increments deeper than the homeowner's key for the chamber in which the PK balls are located. When the homeowner's key is inserted, it will raise the PK balls above the shear line. As the key rotates in the plug, the balls fall into a pocket on the side of the plug. This changes the combination of the lock and locks out the builder's key.

Grand Master Keying — Grand Master Keying involves three or more levels of keying. Tenant keys operate individual locks, master keys operate locks within a group, and the grand master key operates all units in the group.

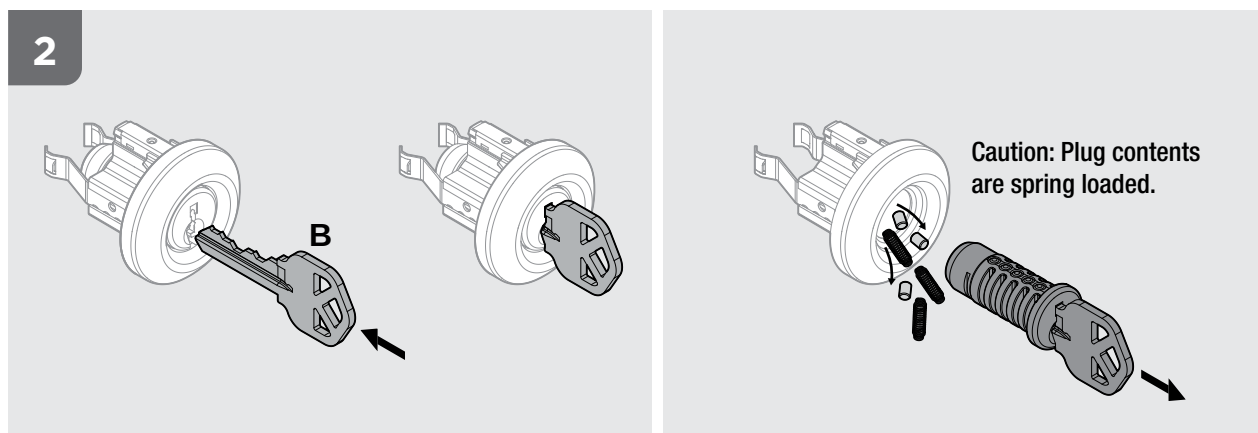
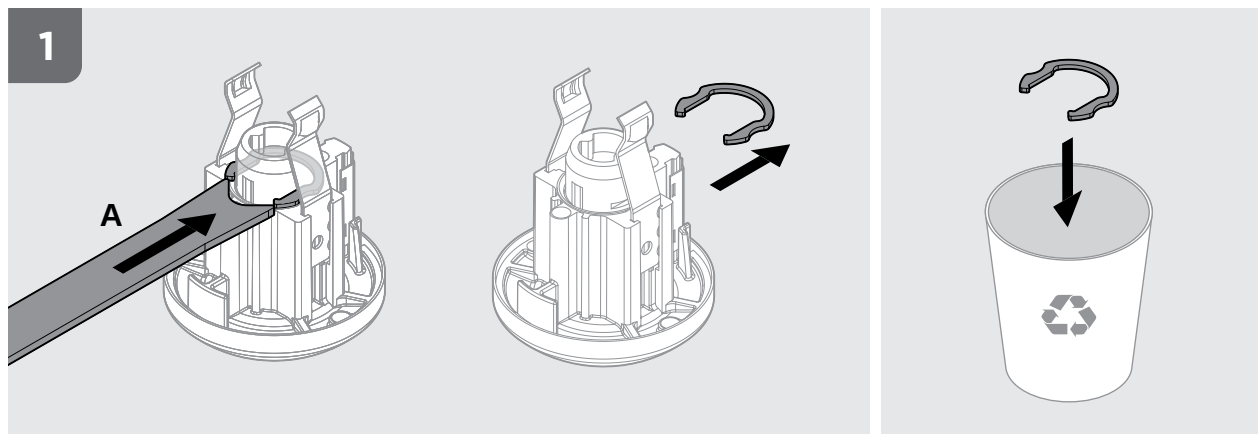
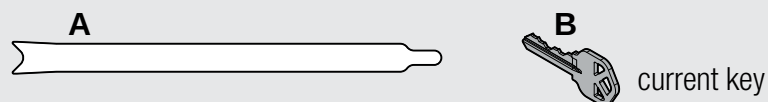
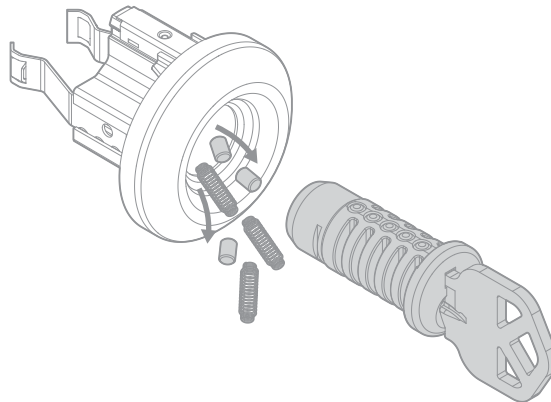
Protecto-Grand Master Keying — This procedure is similar to Grand Master Keying, with the addition of a builder's key and three PK balls in place of a #2 master pin.

Maison Keying — This procedure, also referred to as "Keyed Common" or "Keyed to Pass," is used when several tenant keys must pass through a common entrance, like a lobby or laundry room.

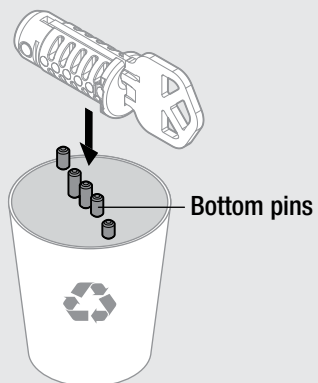
MASTER KEYING

Cylinder Preparation

This procedure should be performed before master keying a lock. The illustrations below show a standard knob cylinder after it has been removed from the knob's chassis. Complete cylinder removal instructions for each product can be found later on in this manual.



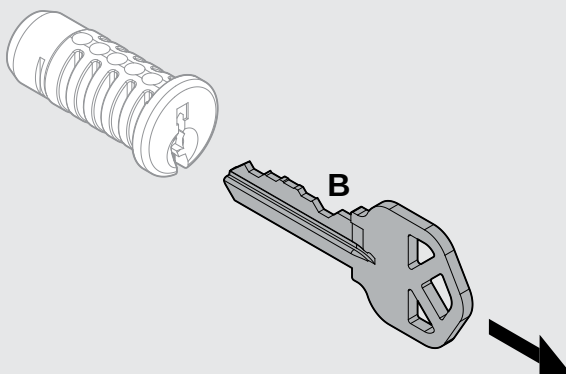
3



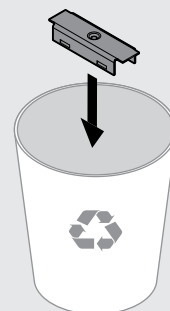
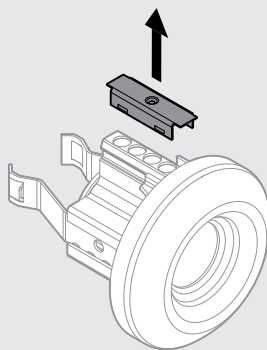
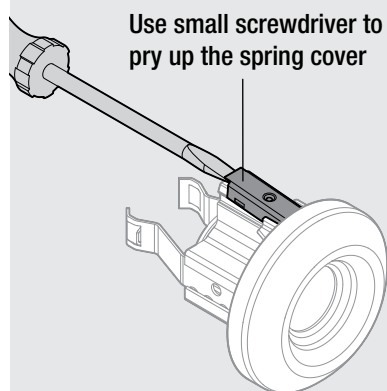
Springs
Top pins



4



5

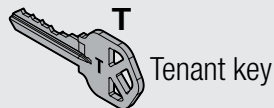
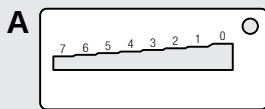
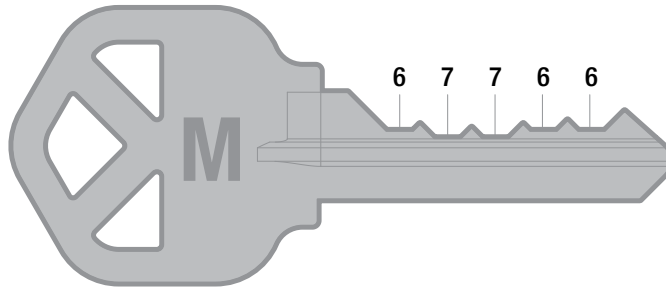


MASTER KEYING

Using a Deep Master Key

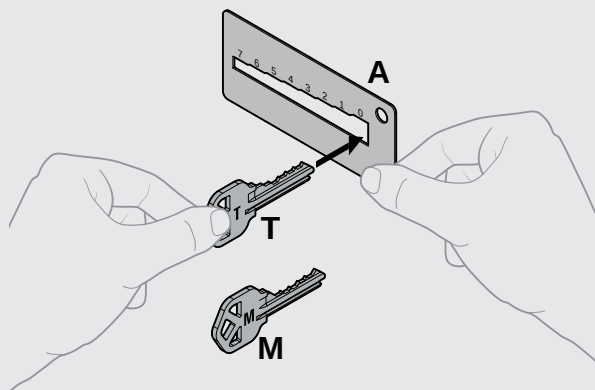
Deep master keying requires the use of a master key with key cuts that are all deeper than those of the tenant key.

Note: The key cut combinations used here are examples only.



1

Measure both keys and write down key cut combinations.



Note: The key cut combinations used here are examples only.

Circle the smallest number of each cut.

Master 6 7 7 6 6

Tenant ③ ⑤ ④ ④ ④

The circled numbers are the required bottom pins. In deep master keying, the smallest numbers will be all the cuts of the tenant key.

Now, find the difference of each cut.

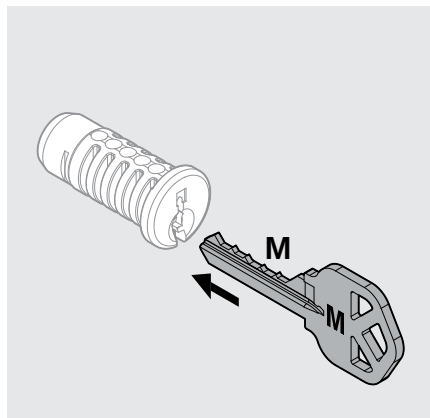
Master 6 7 7 6 6

Tenant 3 5 4 4 4
 3 2 3 2 2

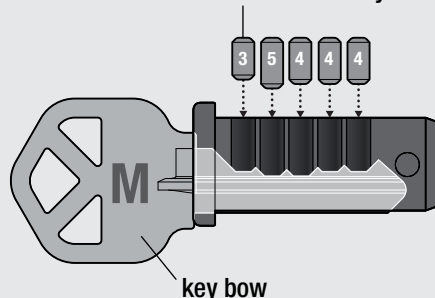
The difference refers to the required master pins.

2

Perform procedure on page 14 if you have not done so already.

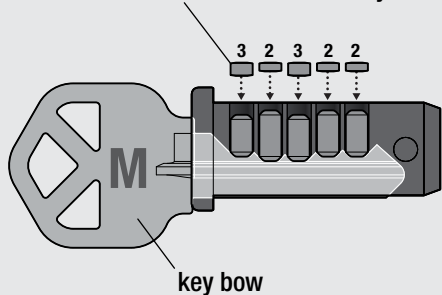


Insert required bottom pins, starting with the one closest to the key bow.

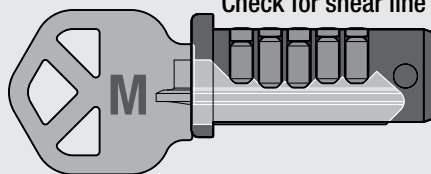


3

Insert required **master** pins, starting with the one closest to the key bow.

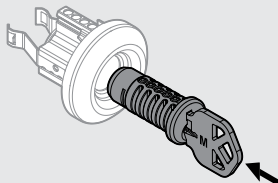


Check for shear line

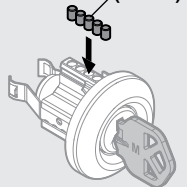


4

Reinstall the plug into the cylinder housing. A standard knob cylinder housing is illustrated here.

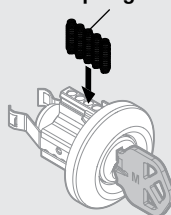


new top pins (.160")

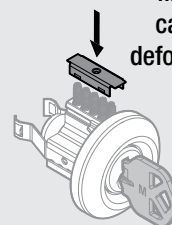


⚠ Do not use .180" top pins.

new springs

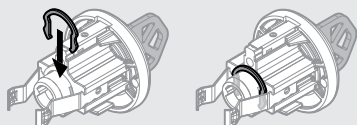


Install new spring cover. Press down firmly and be careful not to deform springs.

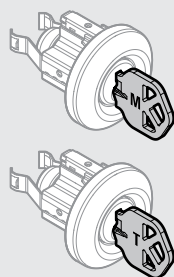


5

Install new clip. Do not use old clip.

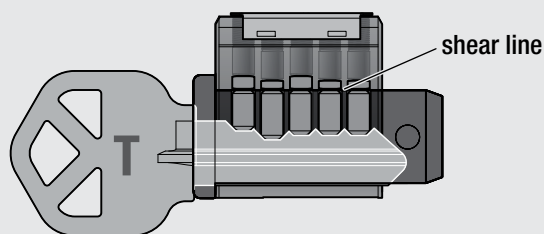


Keep key in place while installing clip.



Test operation of both keys.

If the correct pins were used to master key the lock, the tenant key will produce a shear line by pushing the master pins above the plug.



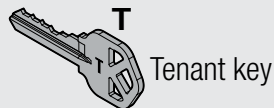
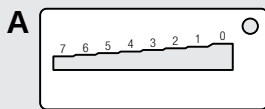
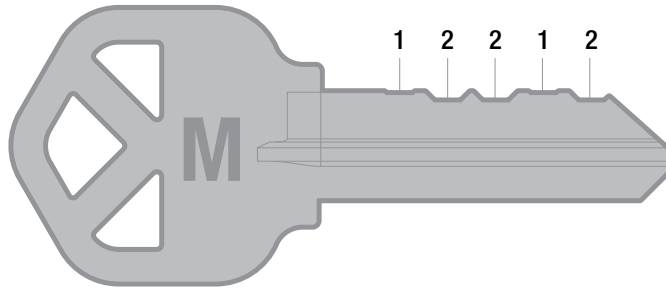
Cylinder housing has been simplified here.

MASTER KEYING

Using a Shallow Master Key

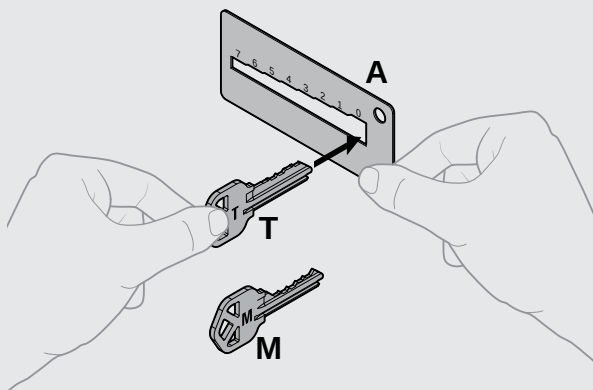
Shallow master keying requires the use of a master key with key cuts that are all more shallow than those of the tenant key.

Note: The key cut combinations used here are examples only.



1

Measure both keys and write down key cut combinations.



Note: The key cut combinations used here are examples only.

Circle the smallest number of each cut.

Master	1	2	2	1	2
Tenant	3	5	4	4	4

The circled numbers are the required bottom pins. In shallow master keying, the smallest numbers will be all the cuts of the master key.

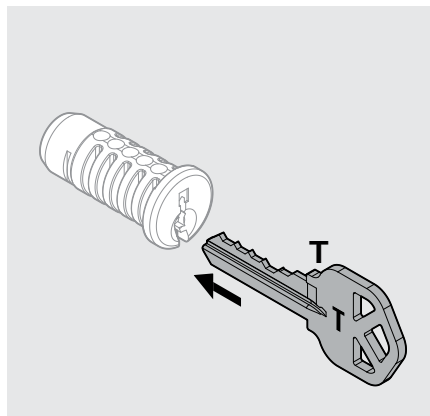
Now, find the difference of each cut.

Master	1	2	2	1	2
Tenant	3	5	4	4	4
	2	3	2	3	2

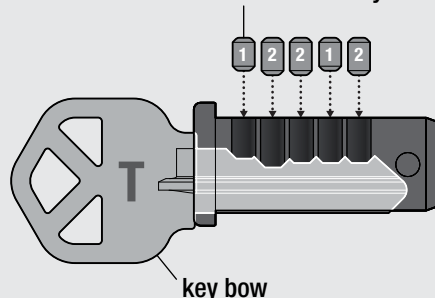
The difference refers to the required master pins.

2

Perform procedure on page 14 if you have not done so already.

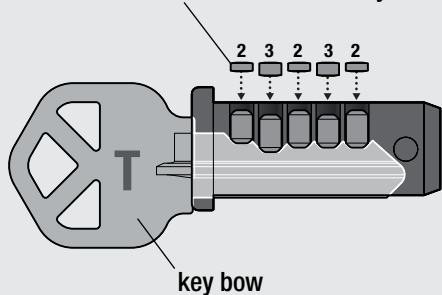


Insert required bottom pins, starting with the one closest to the key bow.

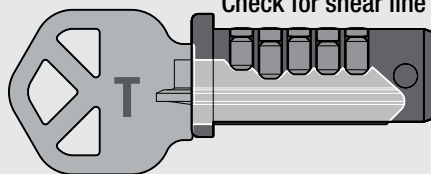


3

Insert required **master** pins, starting with the one closest to the key bow.

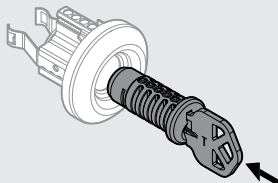


Check for shear line

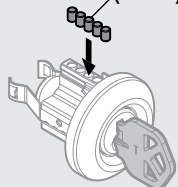


4

Reinstall the plug into the cylinder housing. A standard knob cylinder housing is illustrated here.

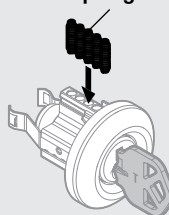


new top pins
(.160")

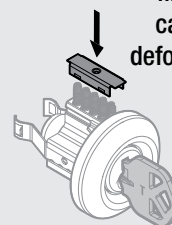


⚠ Do not use .180" top pins.

new springs

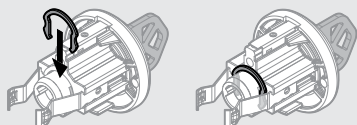


Install new spring cover. Press down firmly and be careful not to deform springs.

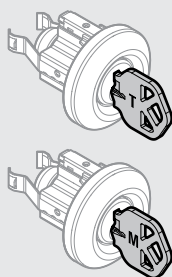


5

Install new clip. Do not use old clip.

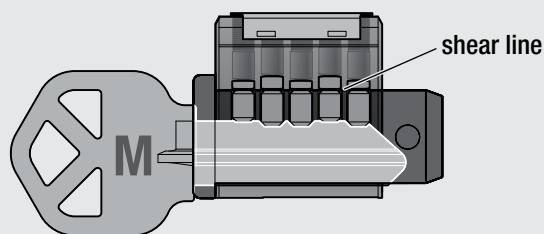


Keep key in place while installing clip.



Test operation of both keys.

If the correct pins were used to master key the lock, the master key will produce a shear line by pushing the master pins above the plug.



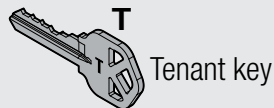
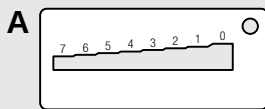
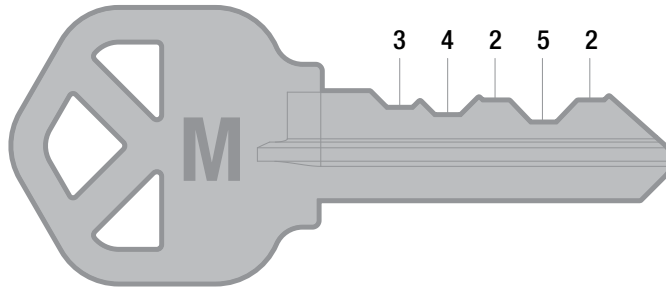
Cylinder housing has been simplified here.

MASTER KEYING

Using a Random Master Key

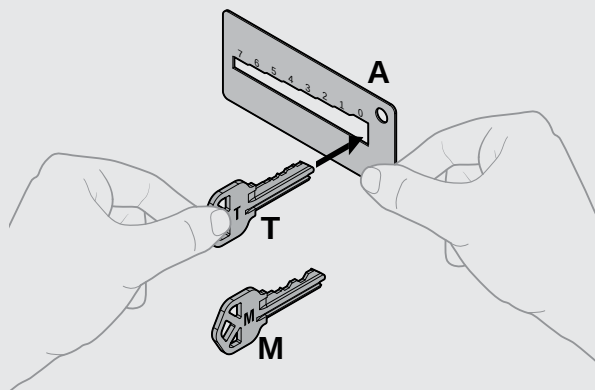
Using a random master key (not shallow or deep) will require the plug to be repinned without a key inserted.

Note: The key cut combinations used here are examples only.



1

Measure both keys and write down key cut combinations.



Note: The key cut combinations used here are examples only.

Circle the smallest number of each cut.

Master ③ ④ ② 5 ②

Tenant 5 4 6 ③ 5

The circled numbers are the required bottom pins.

Now, find the difference of each cut.

Master 3 4 2 5 2

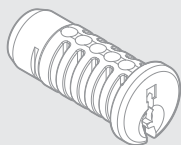
Tenant 5 4 6 3 5

2 0 4 2 3

The difference refers to the required master pins. A "0" means that a master pin is not put in that chamber.

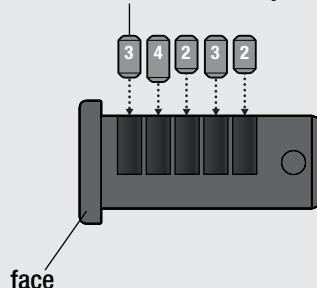
2

Perform procedure on page 14 and isolate the cylinder plug if you have not done so already.



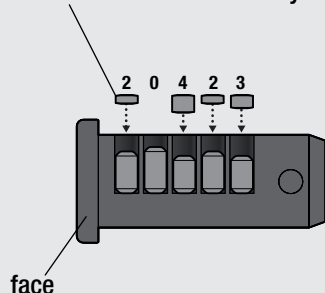
Do not insert key.

Insert required bottom pins, starting with the one closest to the face of the cylinder plug.

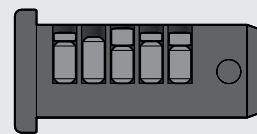


3

Insert required **master** pins, starting with the one closest to the face of the cylinder.

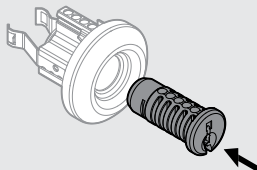


A shear line will not be visible until one of the keys is inserted later on. It is vital that the bottom pins and master pins are correct before proceeding further.

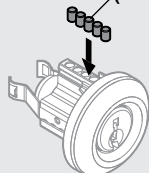


4

Reinstall the plug into the cylinder housing.
A standard knob cylinder housing is illustrated here.

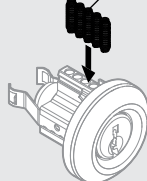


new
top pins
(.160")

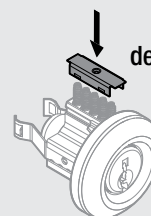


⚠ Do not use
.180" top pins.

new
springs

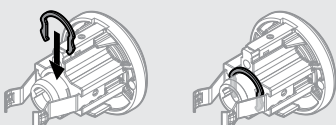


Install new spring
cover. Press down
firmly and be
careful not to
deform springs.

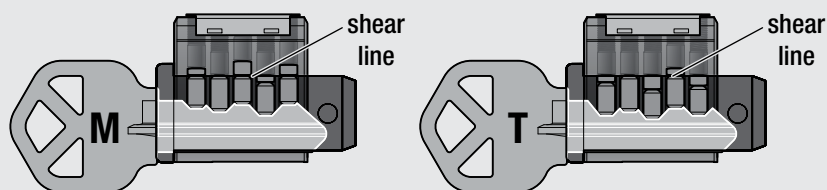


5

Install new clip.
Do not use old clip.



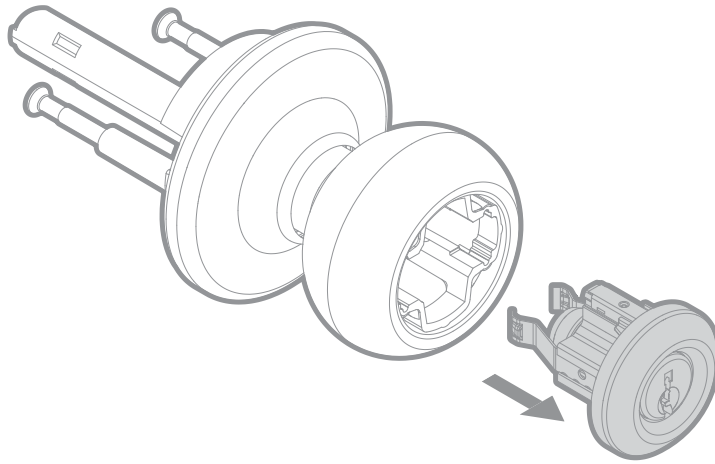
If the correct pins were used to master key the lock, both keys will produce a shear line by shifting the master pins above or down into the plug. Test operation of both keys.



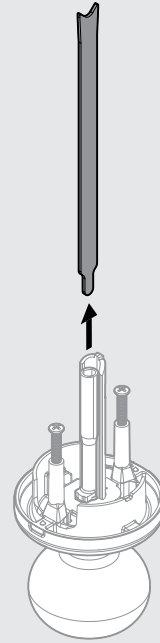
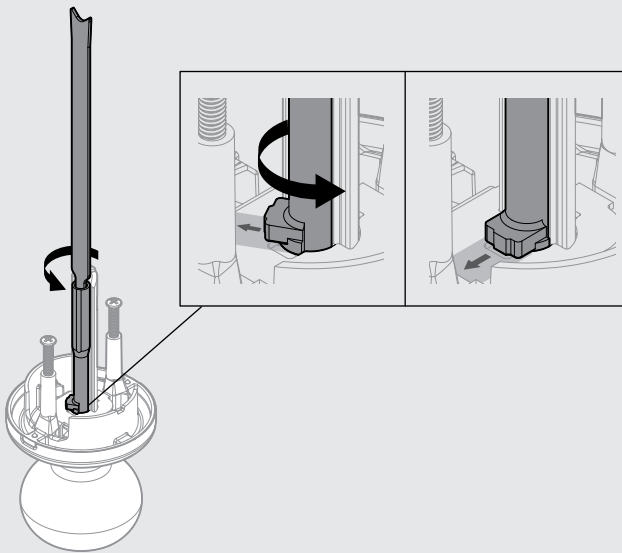
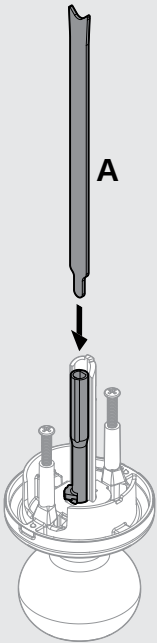
Cylinder housing has been simplified here.

STANDARD KNOB

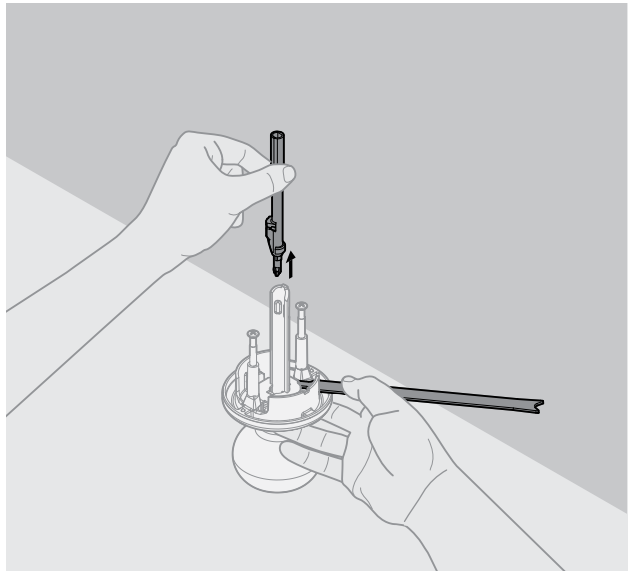
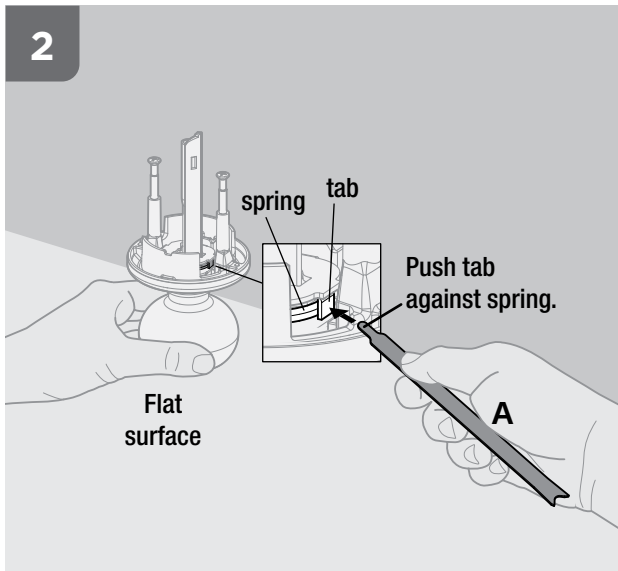
Cylinder Removal



1

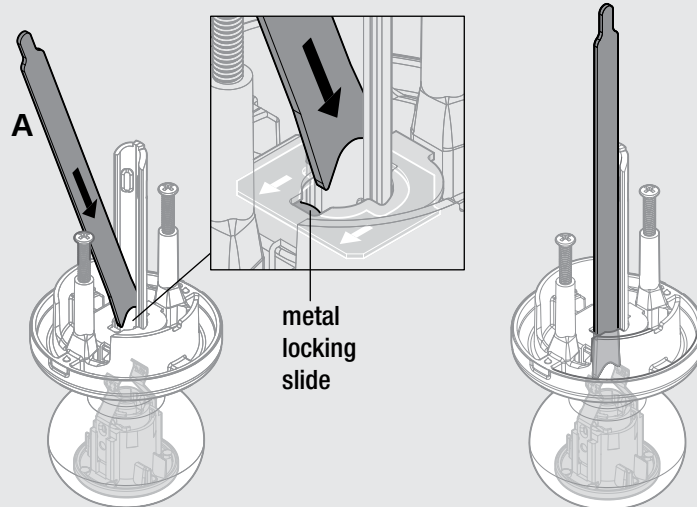


2



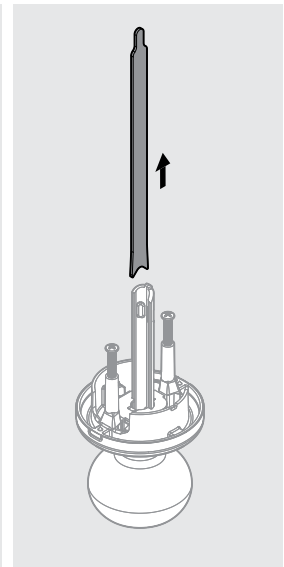
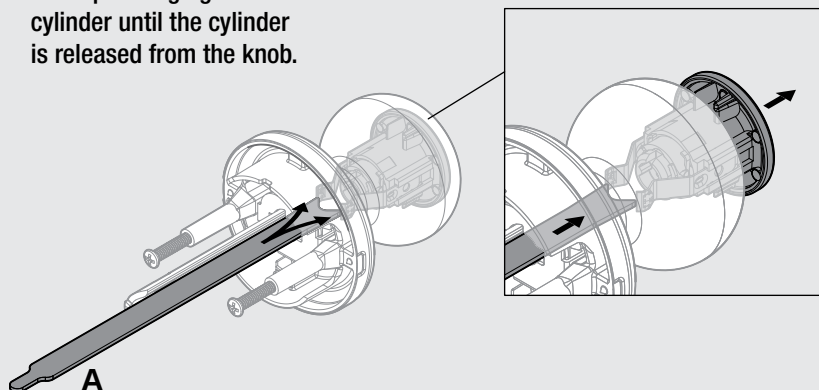
3

Insert the cylinder removing tool (A) into the bottom of the knob chassis at an angle, and push the metal locking slide to the side. Once "A" is past the metal locking slide, push it in until it makes contact with the cylinder.



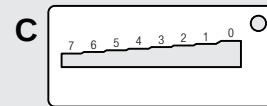
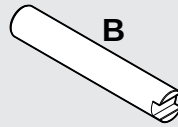
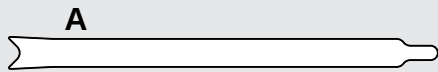
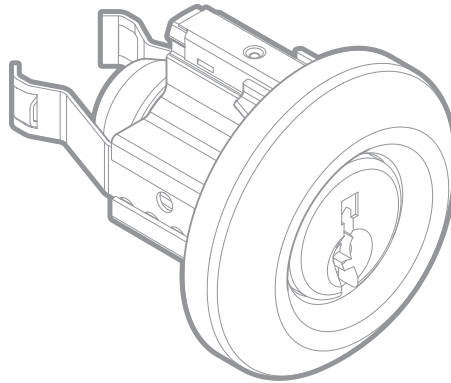
4

Wiggle "A" back and forth while pressing against the cylinder until the cylinder is released from the knob.



STANDARD KNOB

Rekeying

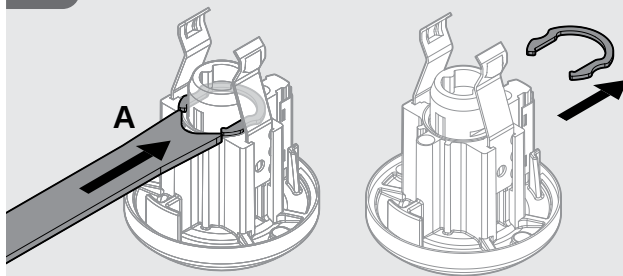


current key



new key

1

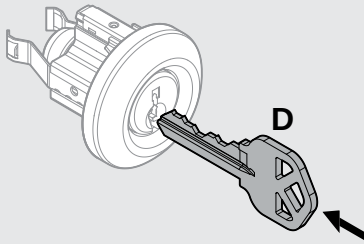


2

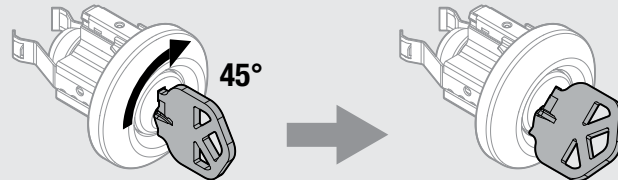
If this knob was previously master keyed, it is recommended that all top pins and springs are removed and replaced. Stop here, and proceed to page 29.

If the knob was not previously master keyed, continue on to step 3.

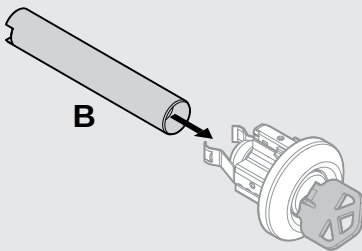
3



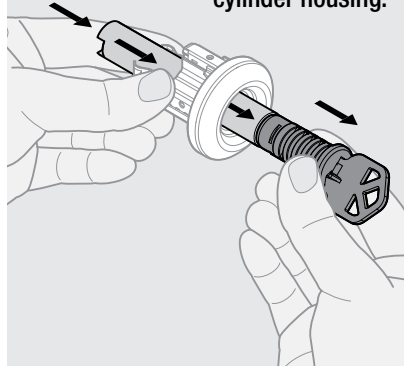
Be careful not to let the plug slip out of the cylinder housing.



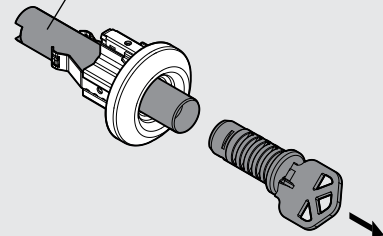
4



Keep plug and plug follower (B) tight against each other while pushing plug out of cylinder housing.

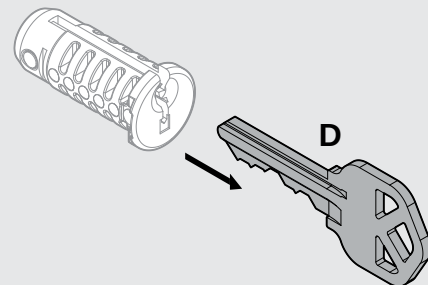
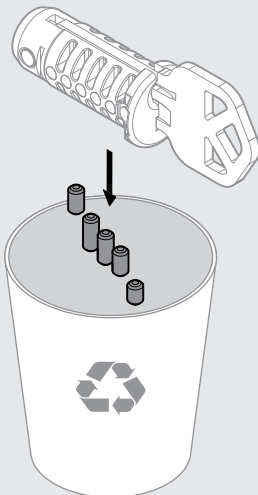


⚠ Leave plug follower (B) inside cylinder housing to keep top pins and springs in place.



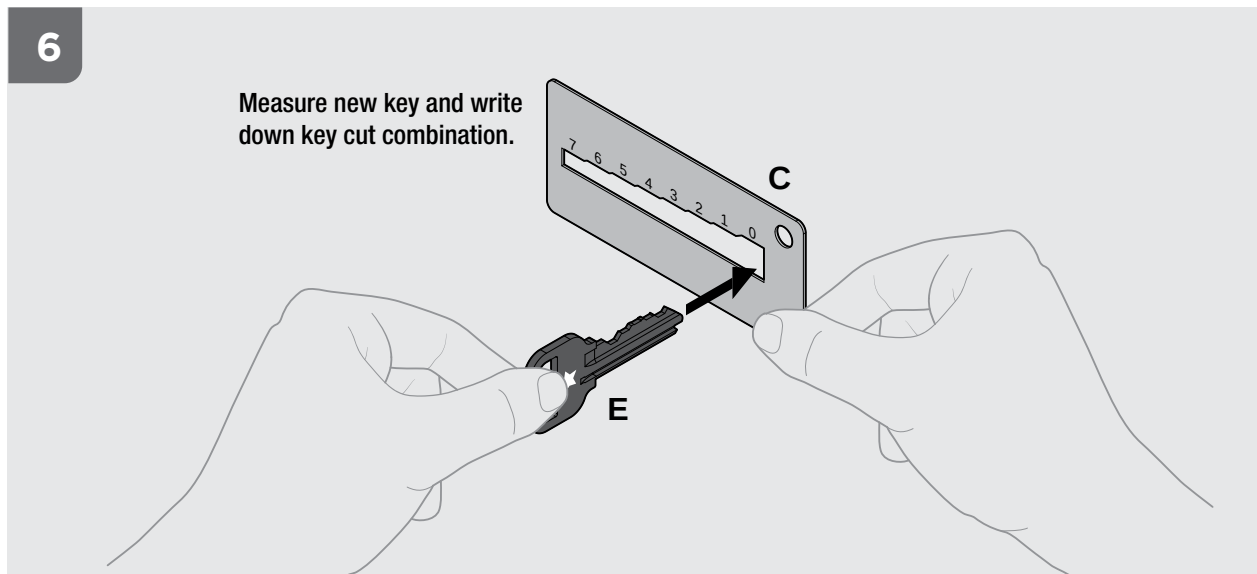
If top pins and springs fall out, see page 30.

5



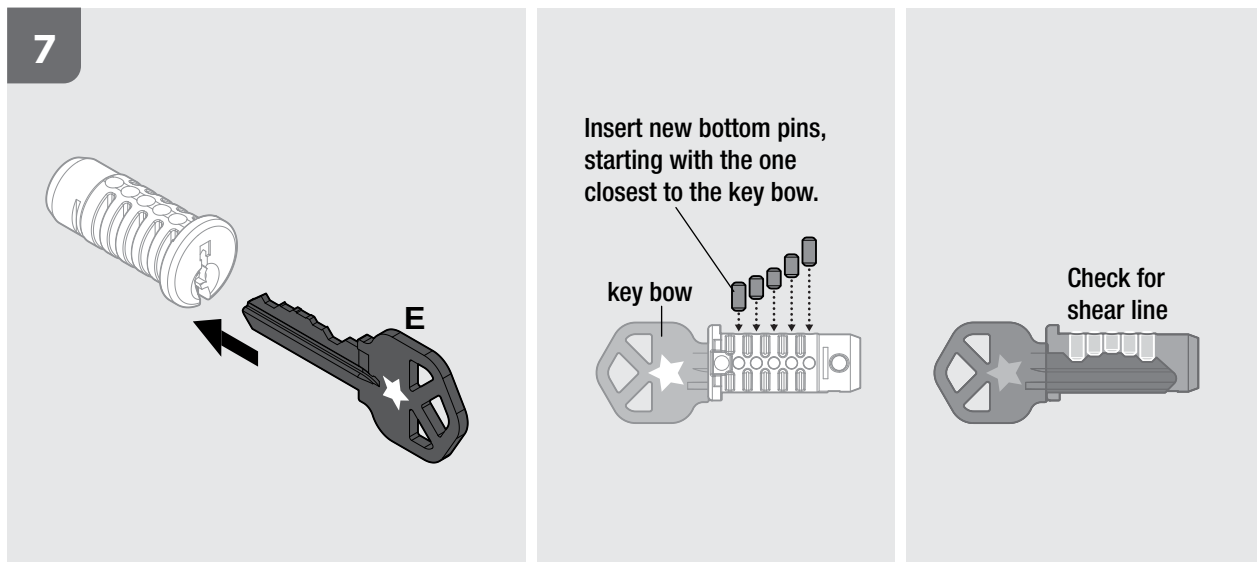
6

Measure new key and write down key cut combination.



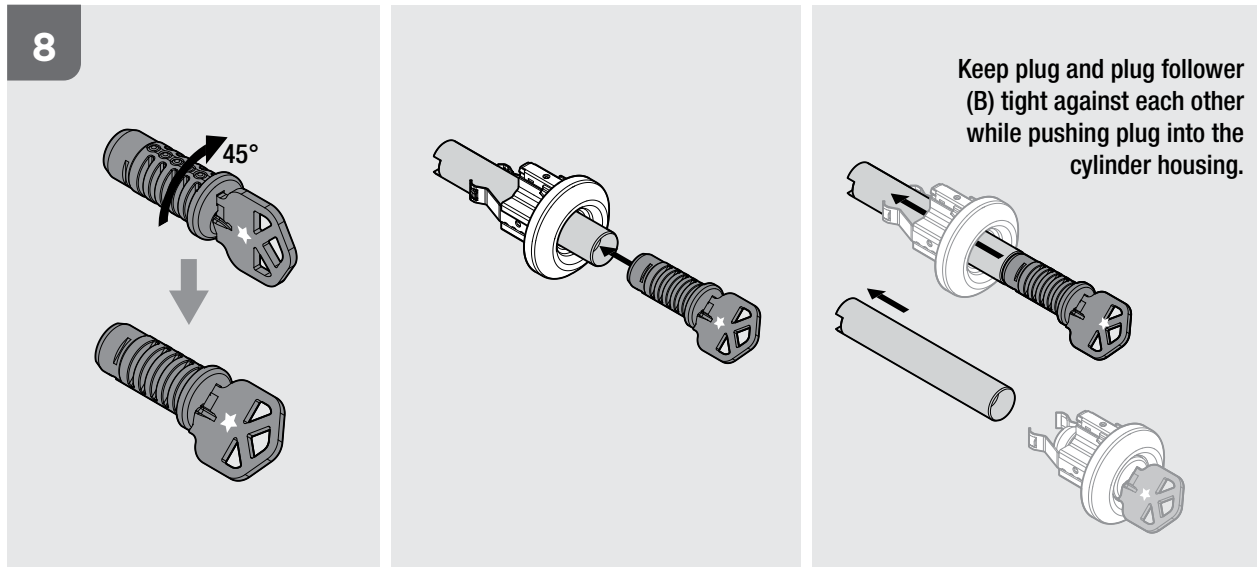
7

Insert new bottom pins, starting with the one closest to the key bow.

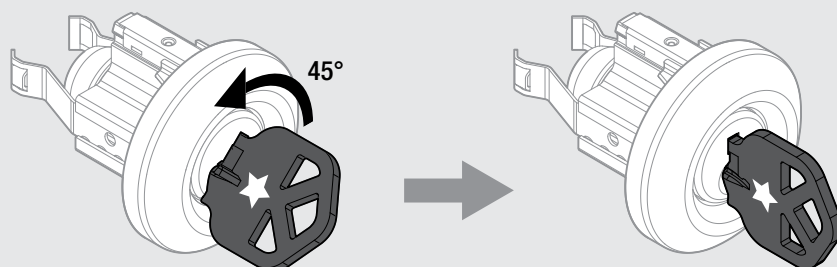


8

Keep plug and plug follower (B) tight against each other while pushing plug into the cylinder housing.

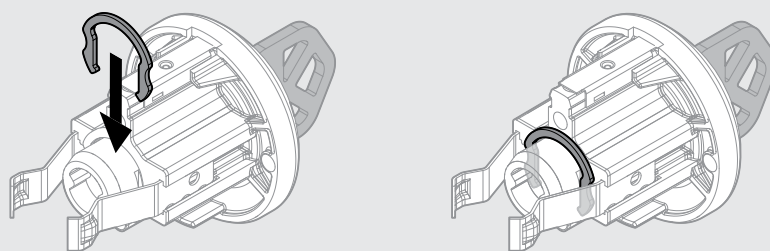


9



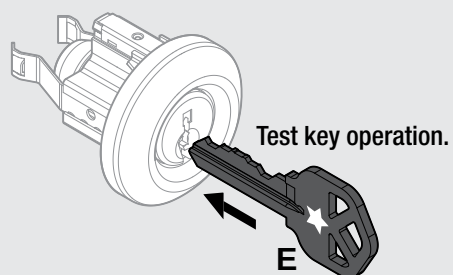
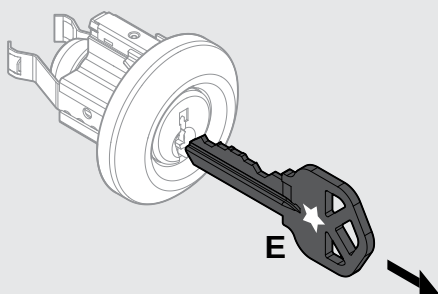
10

Install new clip.
Do not use old clip.



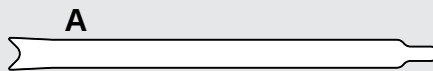
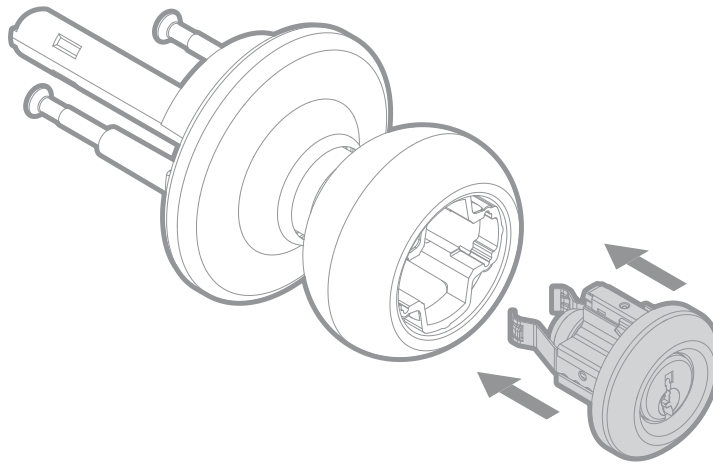
Keep key in place while
installing clip.

11



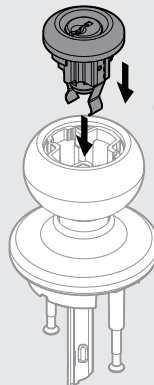
STANDARD KNOB

Cylinder Replacement



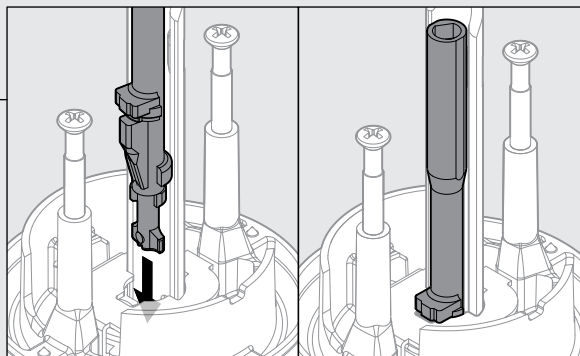
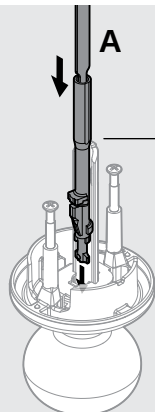
1

Insert the cylinder so that the keyway will be oriented correctly when the knob is installed on the door.



Press in until you feel the cylinder click inside the knob.

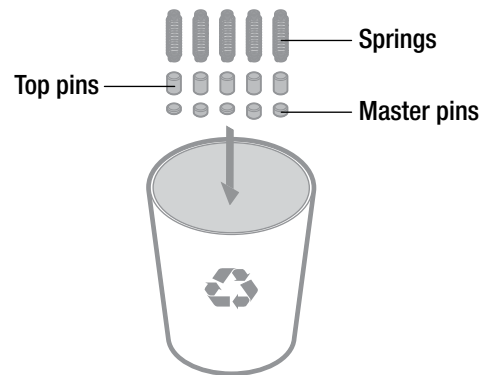
2



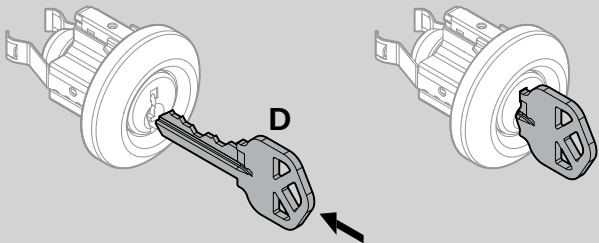
STANDARD KNOB

Top Pin and Spring Removal

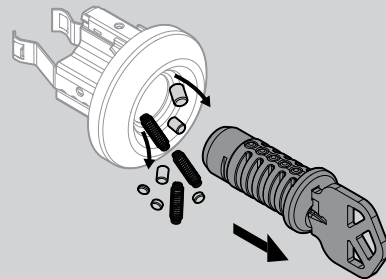
If a lock is changing from a two level master keyed cylinder to a single level keyed cylinder (where only one key cut combination will be able to open the lock), it is recommended that all master pins and top pins are removed and replaced.



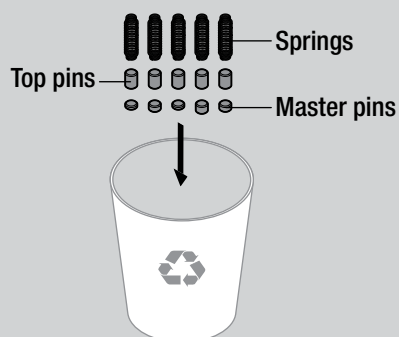
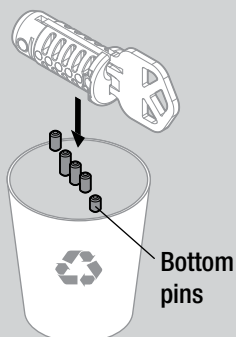
1



Caution: Plug contents are spring loaded.



2

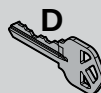
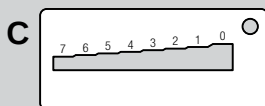
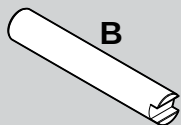
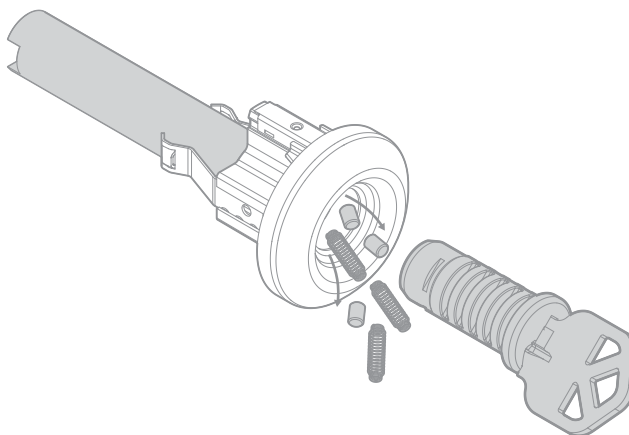


Proceed to Step 2 on page 30 and perform the procedure to rekey the lock and replace the top pins and springs.

STANDARD KNOB

Top Pin and Spring Replacement

If the top pins and springs fall out while you are removing the plug from the cylinder, perform the procedure below to replace them and rekey the plug.

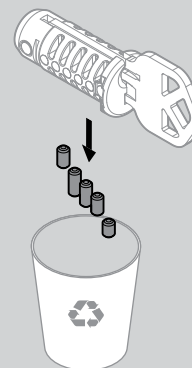
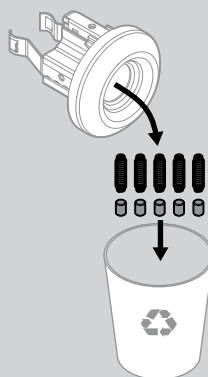
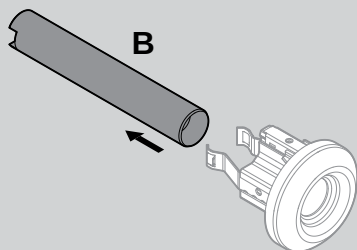


current key

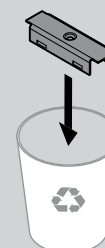
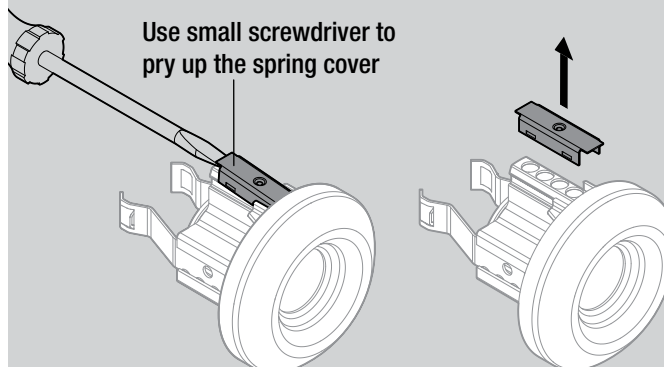
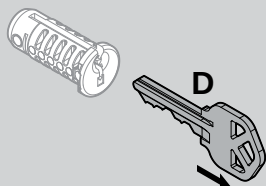


new key

1

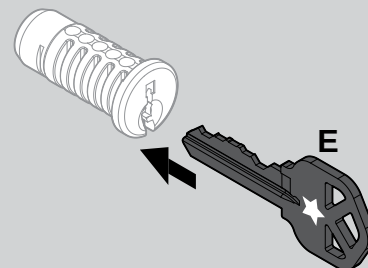
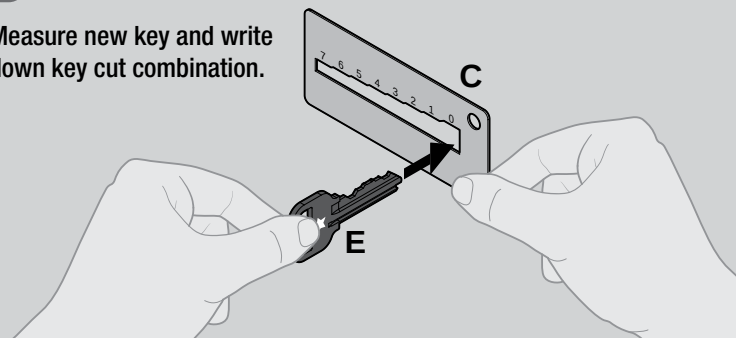


2



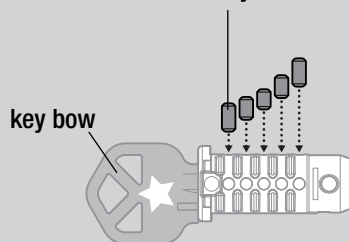
3

Measure new key and write down key cut combination.

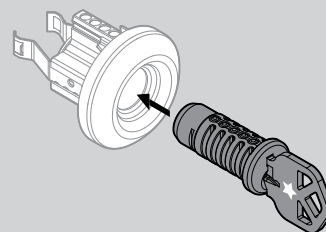
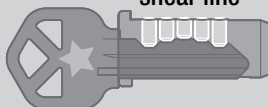


4

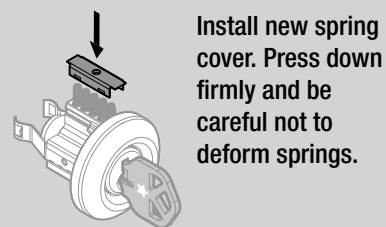
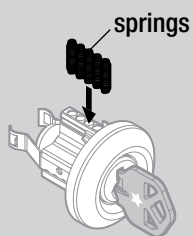
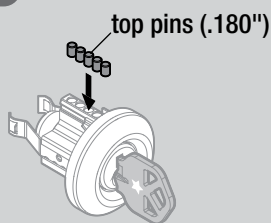
Insert new bottom pins, starting with the one closest to the key bow.



Check for shear line

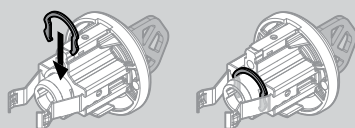


5

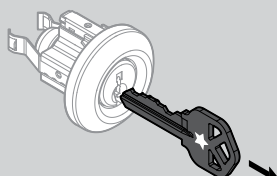


6

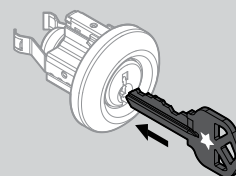
Install new clip.
Do not use old clip.



Keep key in place while installing clip.



Test key operation.

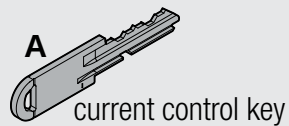
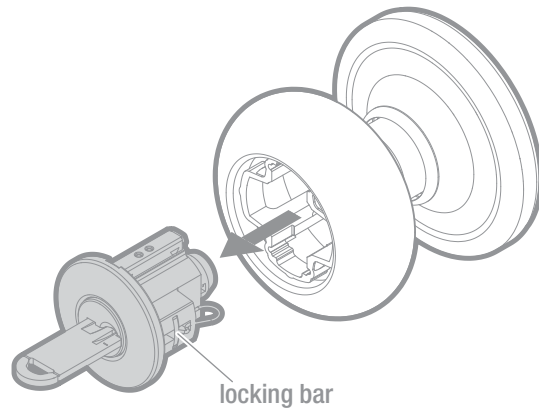


See cylinder replacement instructions on page 28.

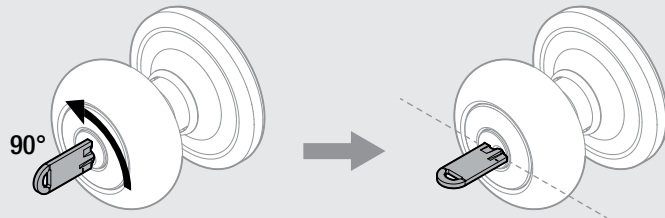
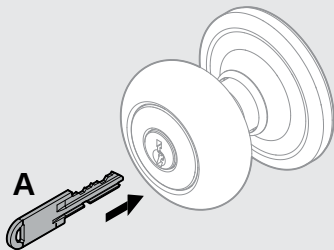
REMOVABLE CORE

Core Removal (with a Control Key)

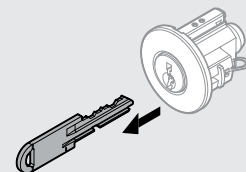
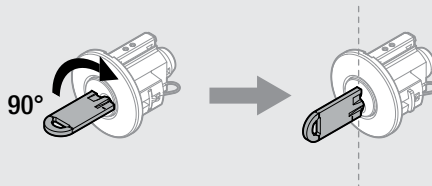
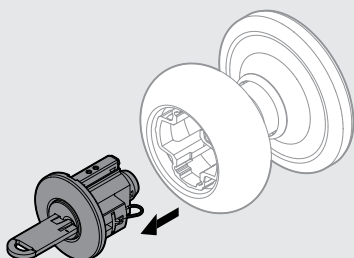
A removable core can be easily removed from a knob with the use of a control key (A). The control key has the same key cut combination as the key that currently operates the lock, with the addition of a notch at the bottom of the key. When the control key turns 90° counterclockwise, this notch allows a spring loaded locking bar to become flush with the core and enables the core's removal from the lock.



1



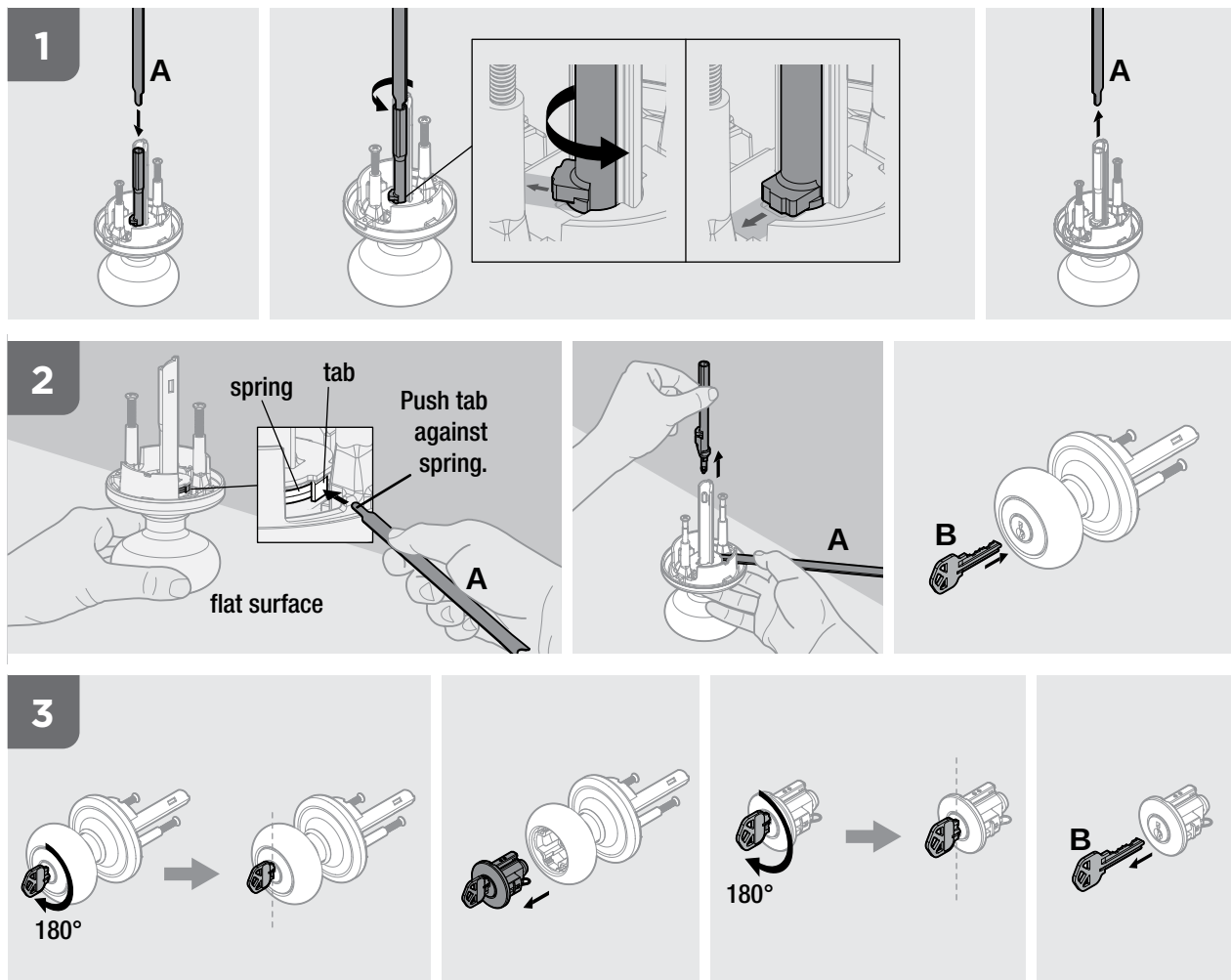
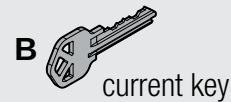
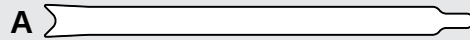
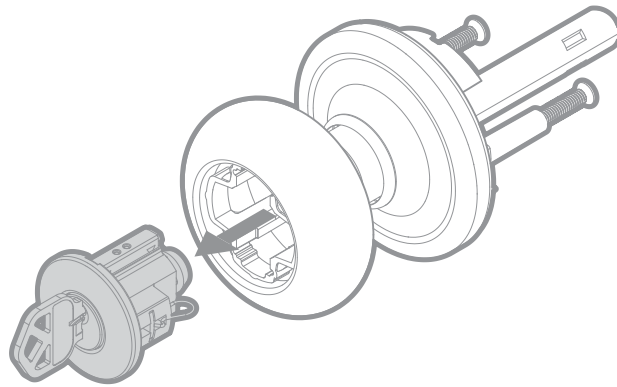
2



REMOVABLE CORE

Core Removal (with a Standard Key)

If you do not have access to your lock's control key, you must remove the knob from the door in order to gain access to the removable core. Once the knob is removed, you can use a cylinder removing tool (A) and the current key (B) to remove the core.

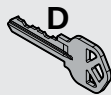
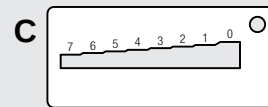
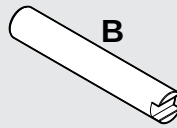
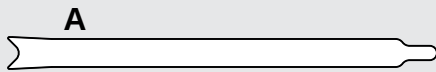
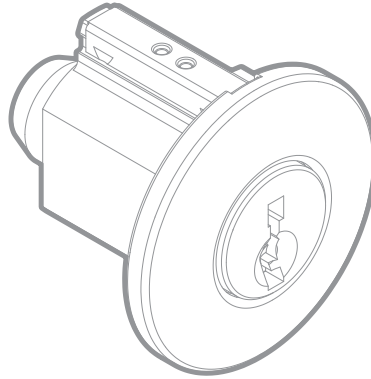


REMOVABLE CORE

Rekeying

Removable cores may be rekeyed using either standard operating keys or control keys. Standard operating keys (D & E) are shown in the following illustrations.

Removable cores contain six-pin plugs. Keep this in mind when gauging your key and repinning the plug.

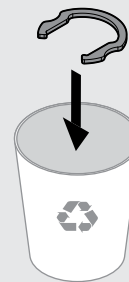
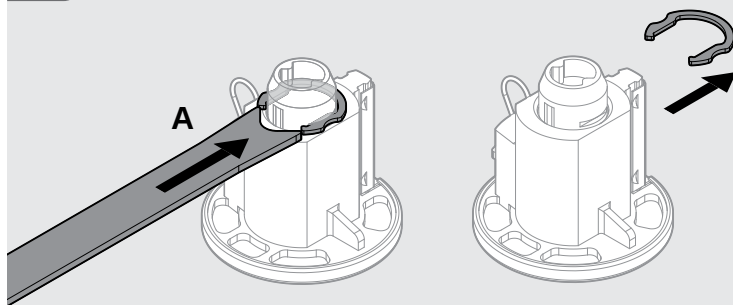


current key



new key

1

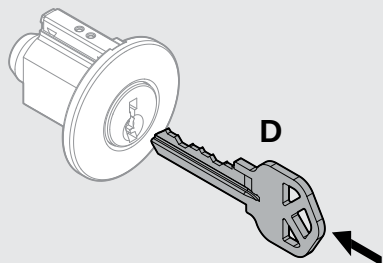


2

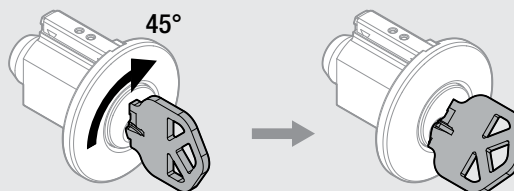
If this knob was previously master keyed, it is recommended that all top pins and springs are removed and replaced. Stop here, and proceed to page 40.

If the knob was not previously master keyed, continue on to step 3.

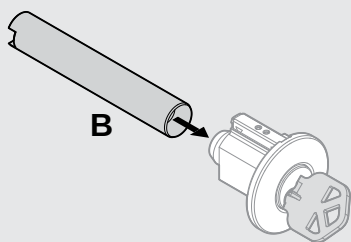
3



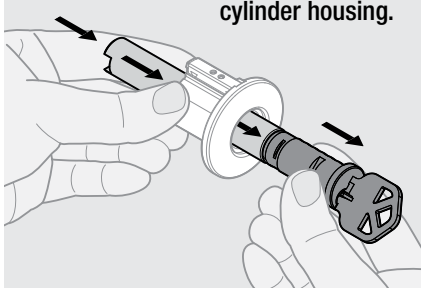
Be careful not to let the plug slip out of the cylinder housing.



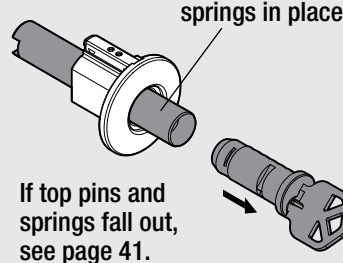
4



Keep plug and plug follower (B) tight against each other while pushing plug out of cylinder housing.

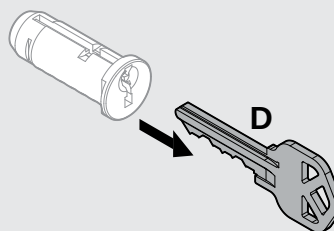
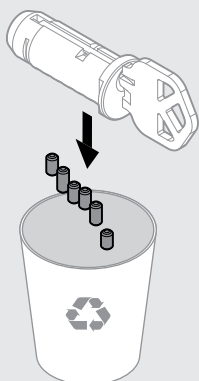


Leave plug follower (B) inside cylinder housing to keep top pins and springs in place.



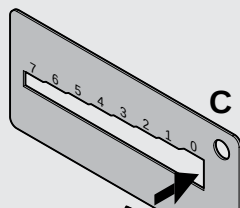
If top pins and springs fall out, see page 41.

5

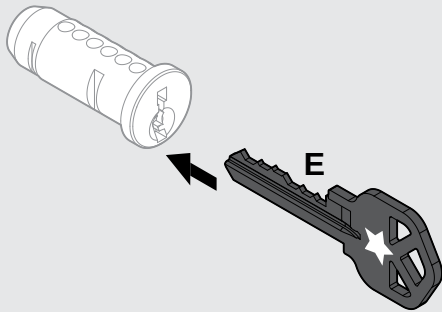


6

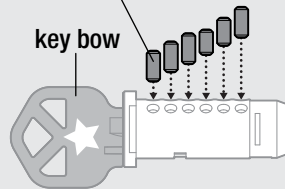
Measure new key and write down key cut combination.



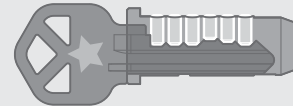
7



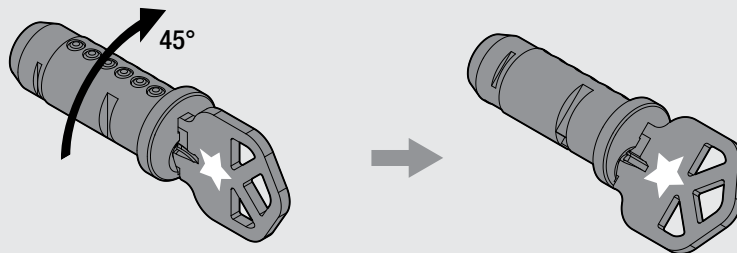
Insert new bottom pins,
starting with the one
closest to the key bow.



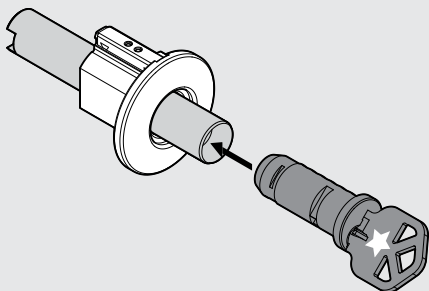
Check for
shear line



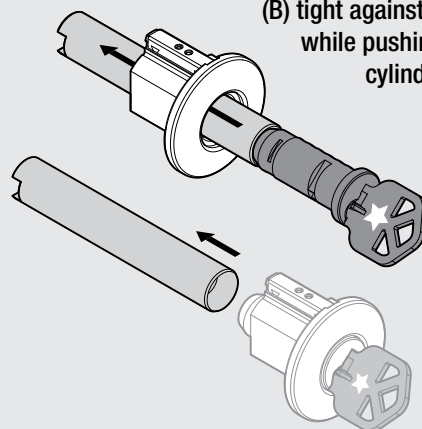
8



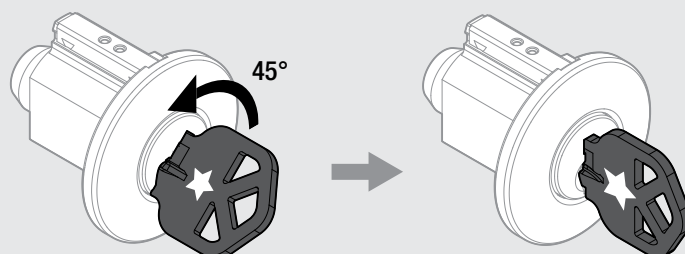
9



Keep plug and plug follower
(B) tight against each other
while pushing plug into
cylinder housing.

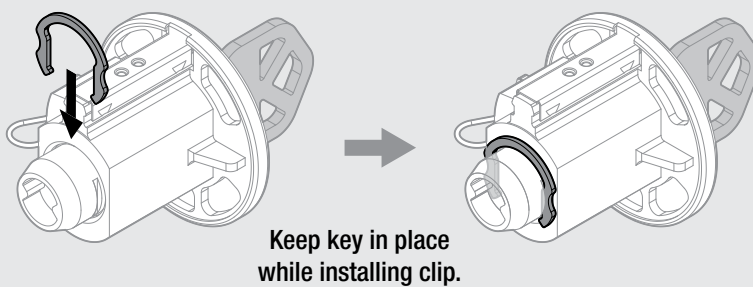


10

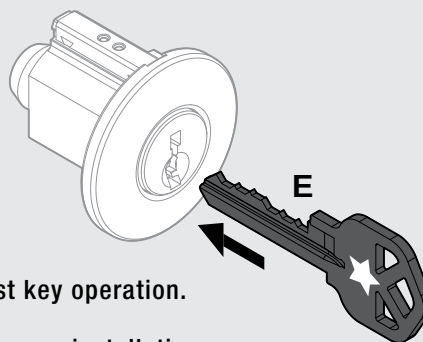
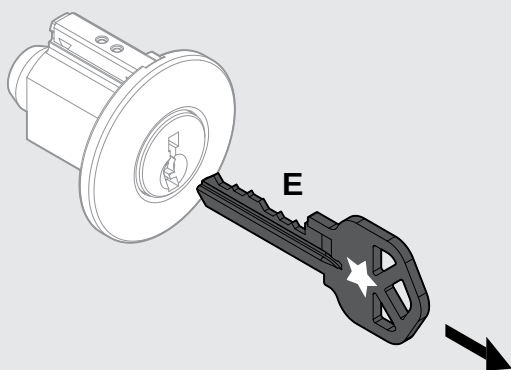


11

Install new clip.
Do not use old clip.



12

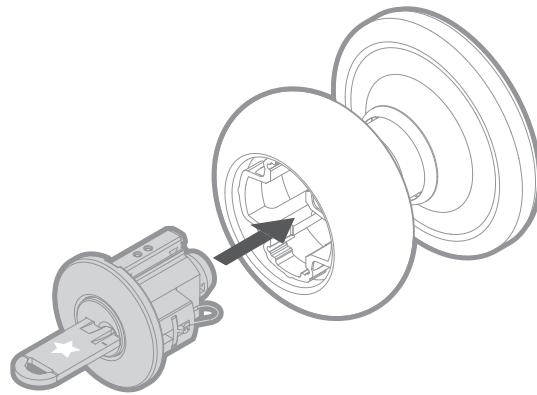


Test key operation.

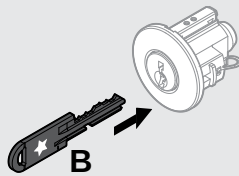
For core installation
instructions, see page 38 or 39.

REMOVABLE CORE

Core Replacement (with a Control Key)



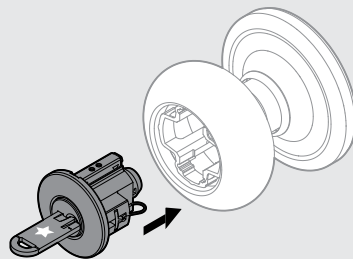
1



90°

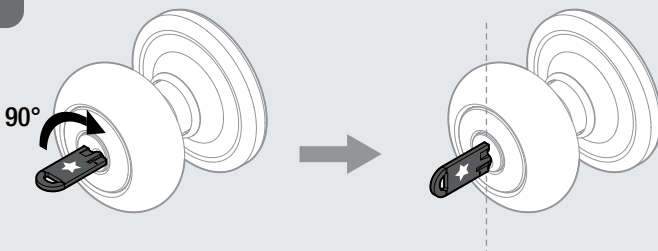


2

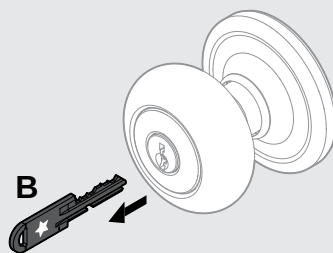


3

90°

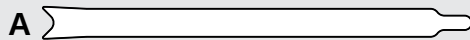
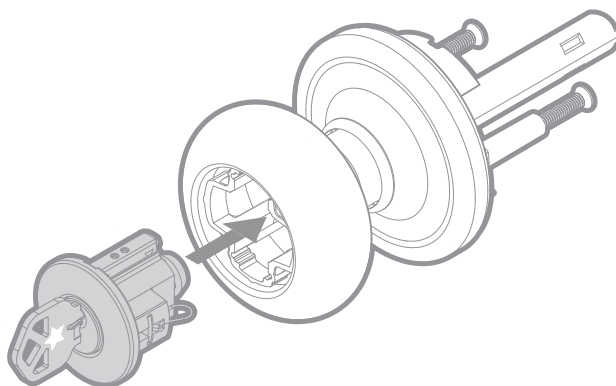


B

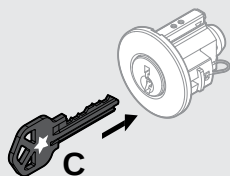


REMOVABLE CORE

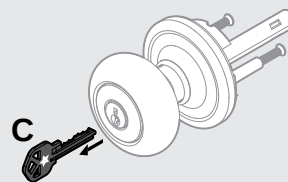
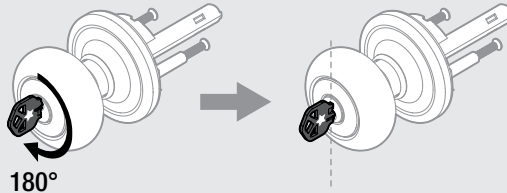
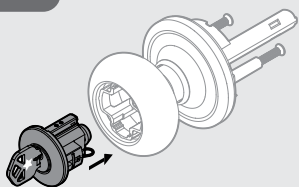
Core Replacement (with a Standard Key)



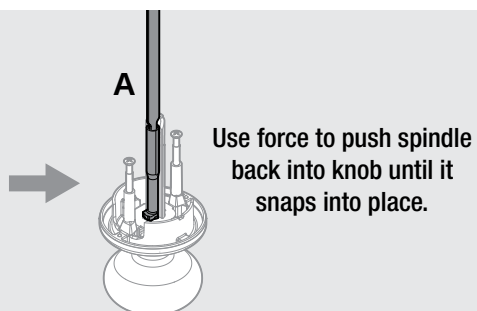
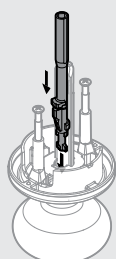
1



2



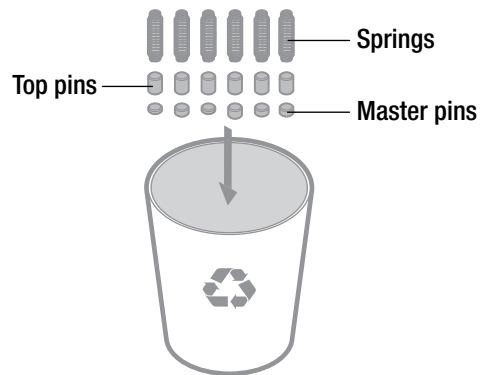
3



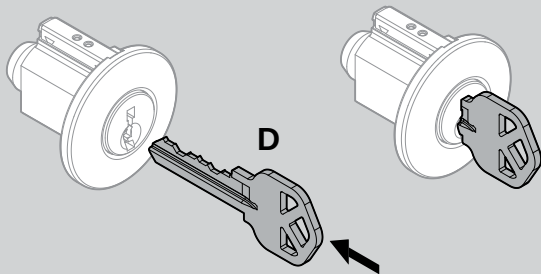
REMOVABLE CORE

Top Pin and Spring Removal

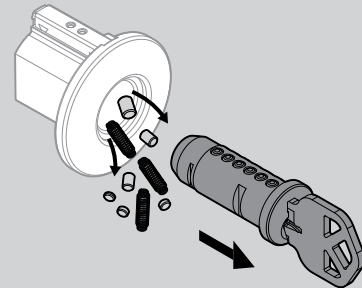
If a lock is changing from a two level master keyed cylinder to a single level keyed cylinder (where only one key cut combination will be able to open the lock), it is recommended that all master pins and top pins are removed and replaced.



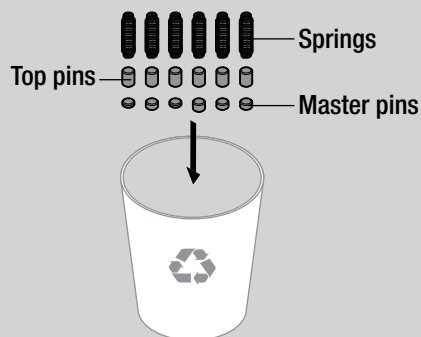
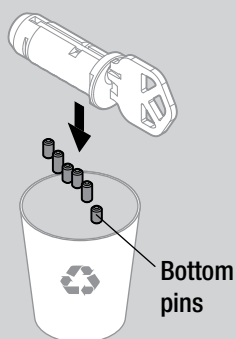
1



Caution: Plug contents are spring loaded.



2

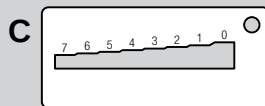
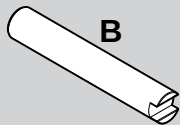
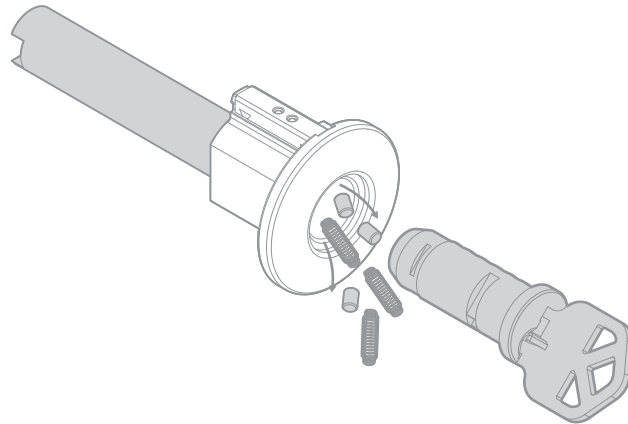


Proceed to Step 2 on page 41 and perform the procedure to rekey the lock and replace the top pins and springs.

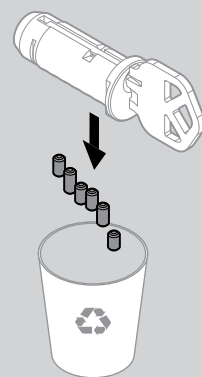
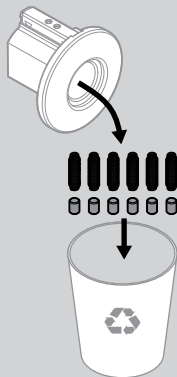
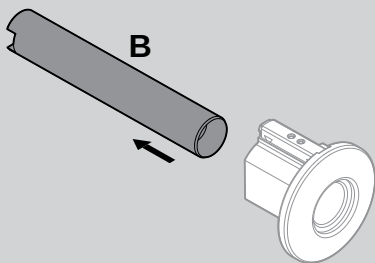
REMOVABLE CORE

Top Pin and Spring Replacement

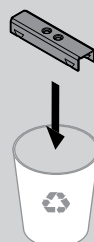
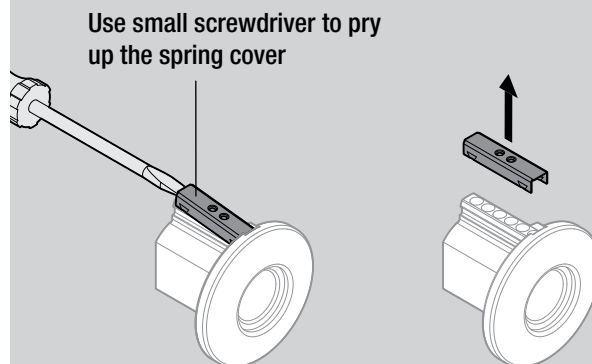
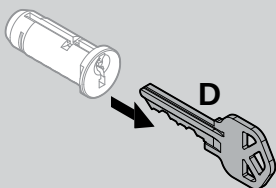
If the top pins and springs fall out while you are removing the plug from the cylinder, perform the procedure below to replace them and rekey the plug.



1



2



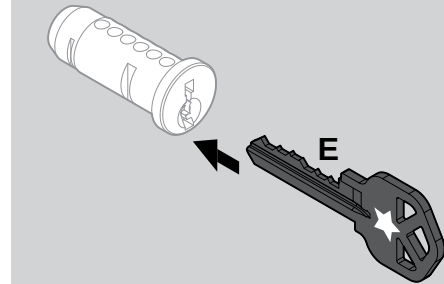
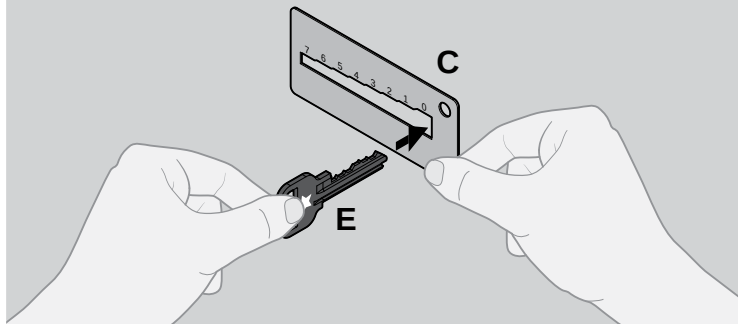
3

Pull metal pin straight out to release the locking bar.

locking bar
pin
pliers

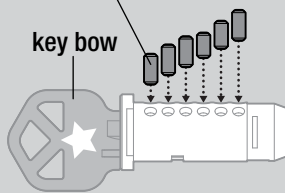
4

Measure new key and write down key cut combination.

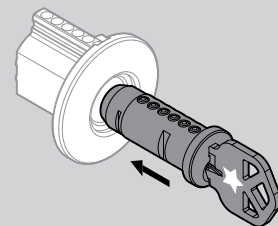
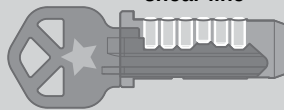


5

Insert new bottom pins, starting with the one closest to the key bow.

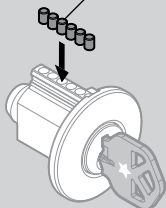


Check for shear line

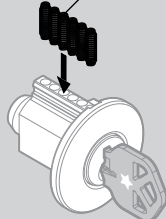


6

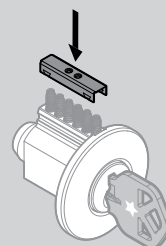
top pins (.180")



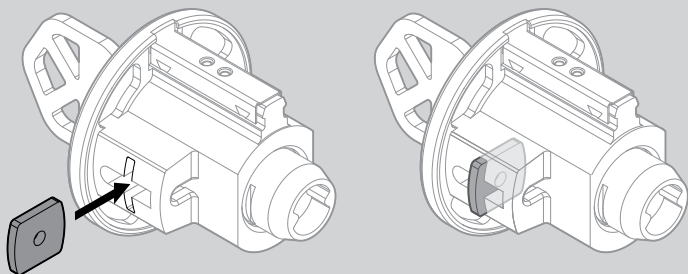
springs



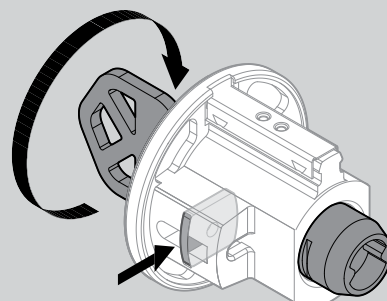
Install new spring cover. Press down firmly and be careful not to deform springs.



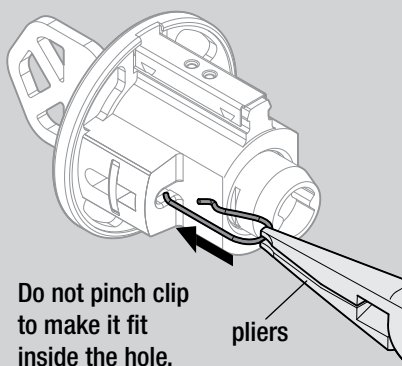
7



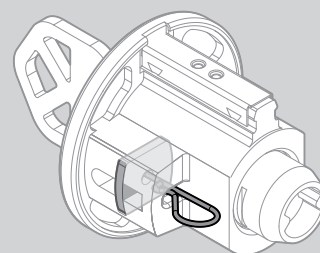
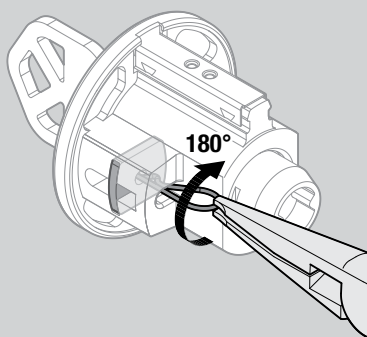
Rotate key until the locking bar becomes flush with the cylinder housing.



8

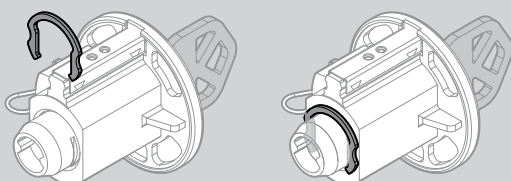


Once pin has been inserted into locking bar, rotate pin 180°.

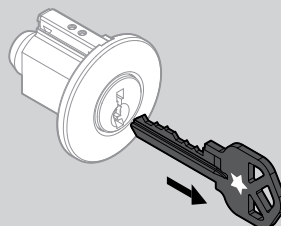


9

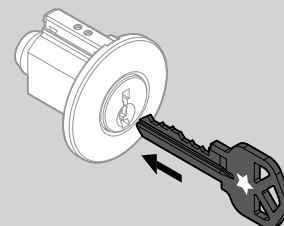
Install new clip.
Do not use old clip.



Keep key in place while installing clip.



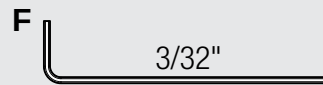
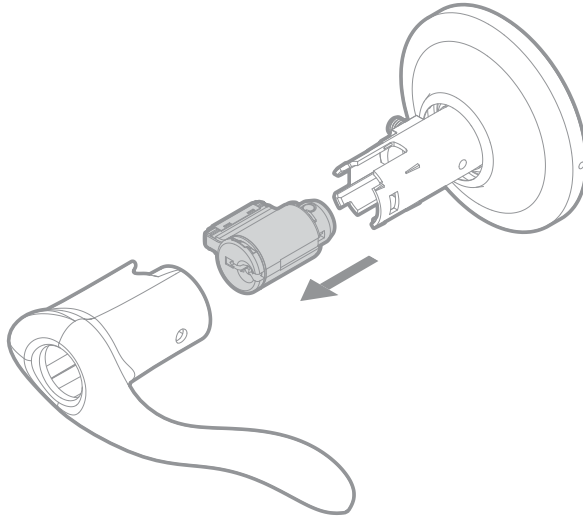
Test key operation.



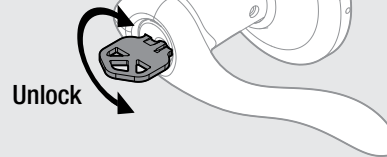
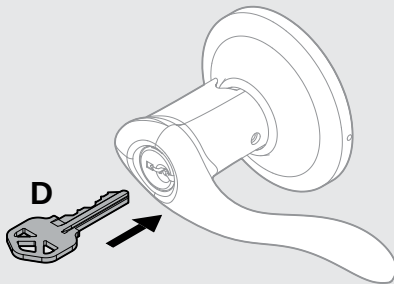
For core installation instructions, see page 38 or 39.

STANDARD LEVER

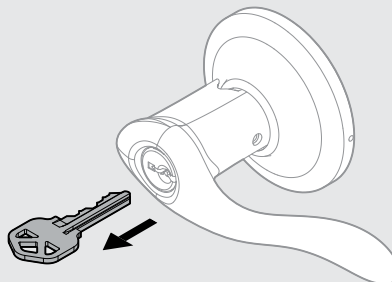
Cylinder Removal



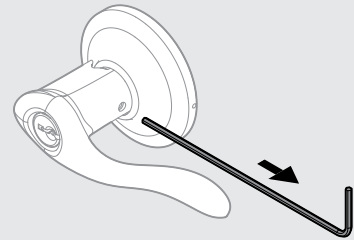
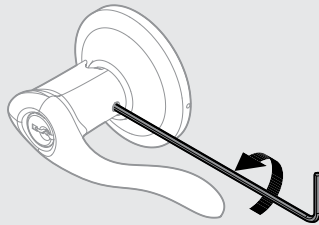
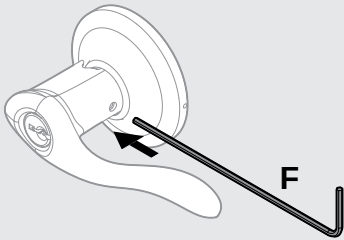
1



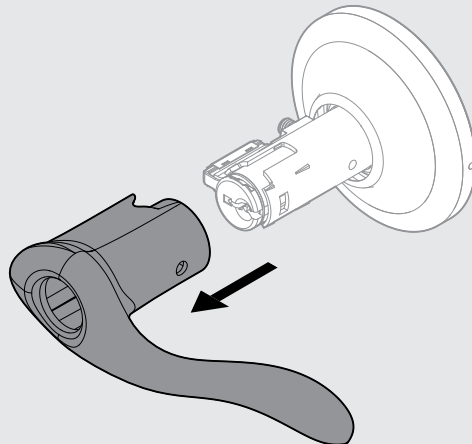
2



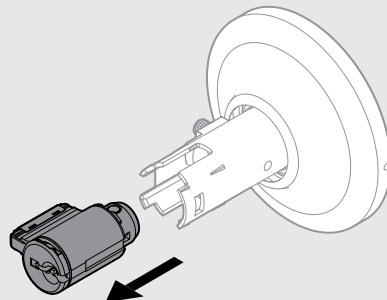
3



4

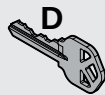
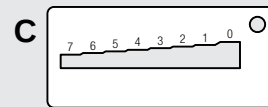
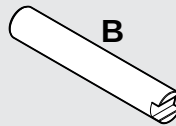
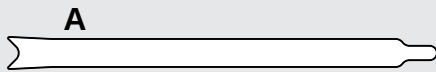
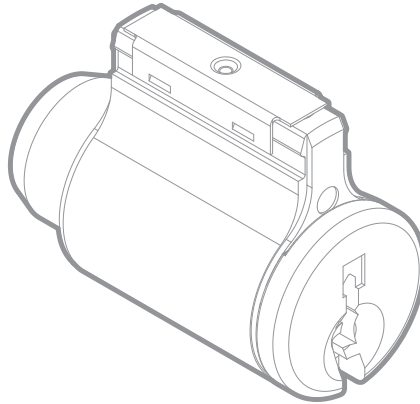


5



LEVER

Rekeying

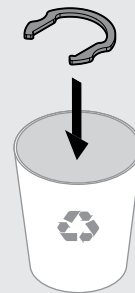
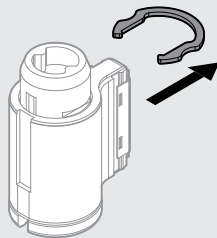
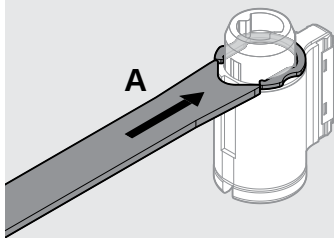


current key



new key

1

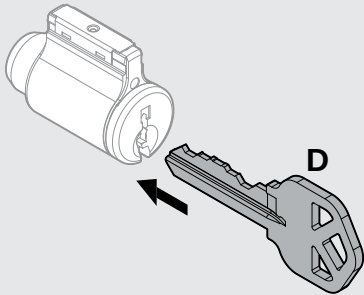


2

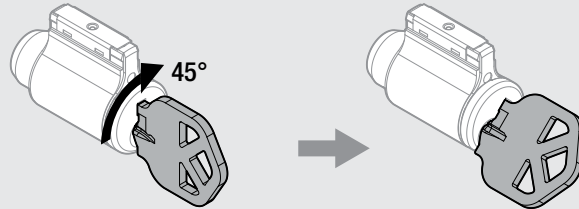
If this lever was previously master keyed, it is recommended that all top pins and springs are removed and replaced. Stop here, and proceed to page 51.

If the lever was not previously master keyed, continue on to step 3.

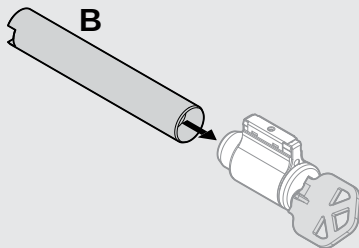
3



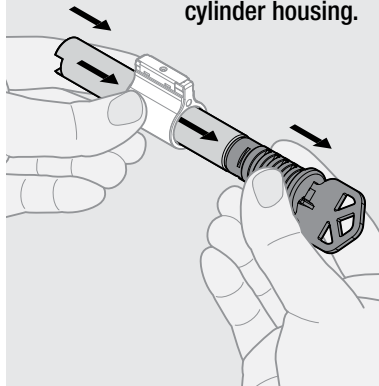
Be careful not to let the plug slip out of the cylinder housing.



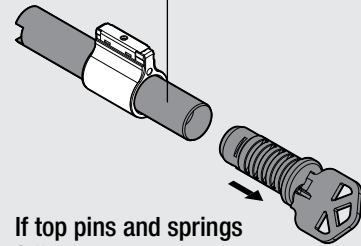
4



Keep plug and plug follower (B) tight against each other while pushing plug out of cylinder housing.

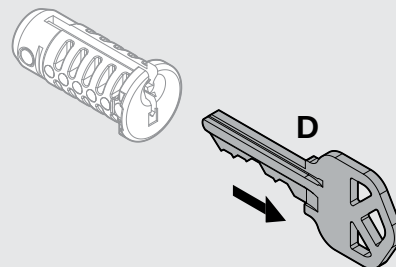
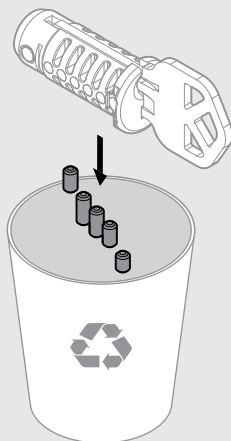


⚠ Leave plug follower (B) inside cylinder housing to keep top pins and springs in place.



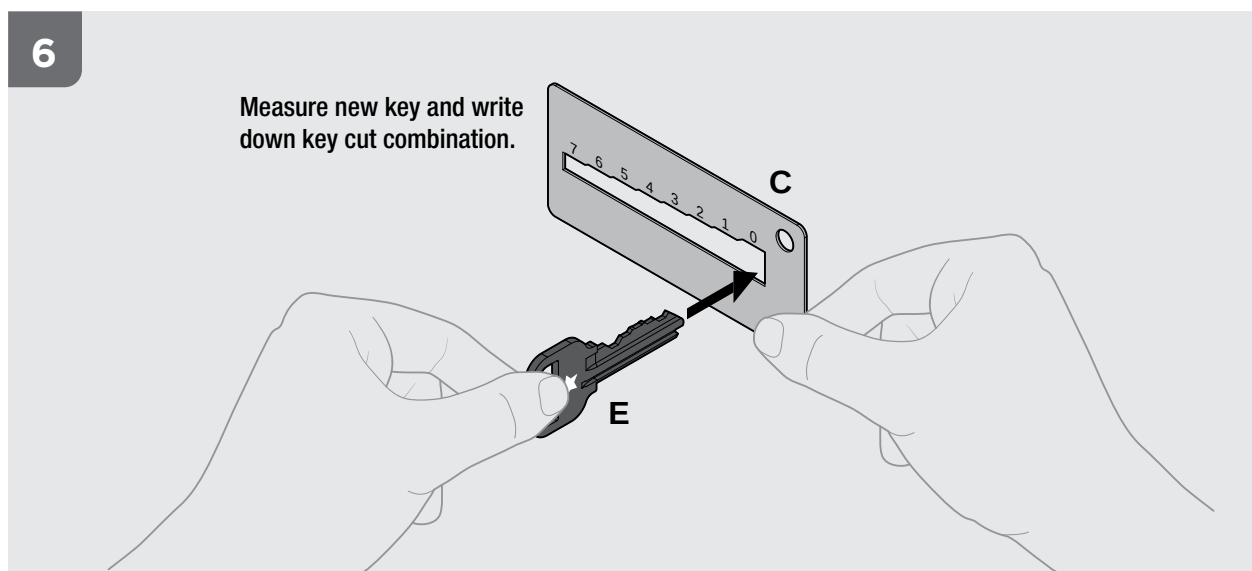
If top pins and springs fall out, see page 52.

5

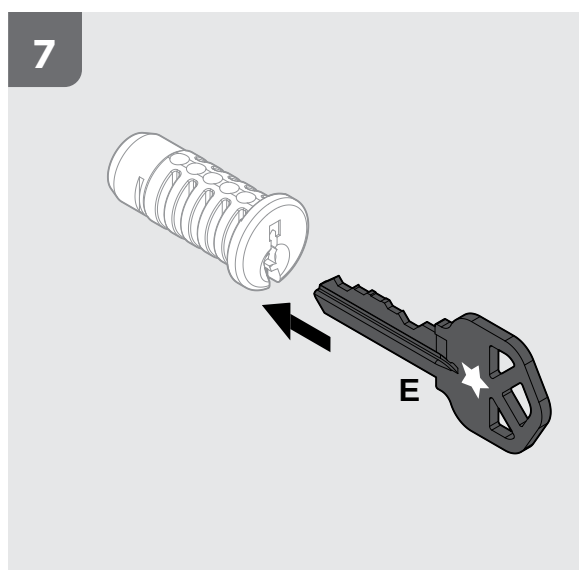


6

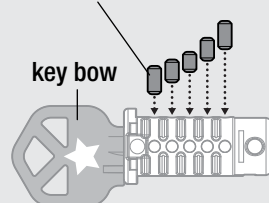
Measure new key and write down key cut combination.



7



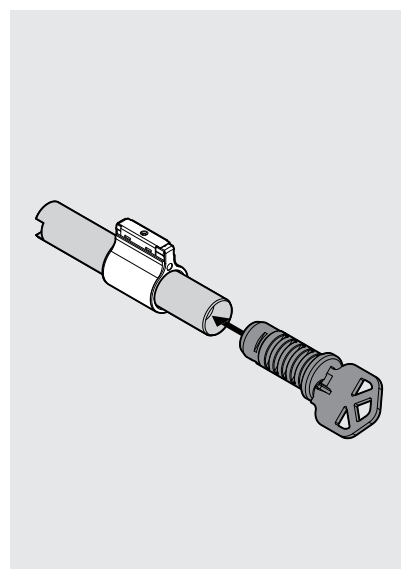
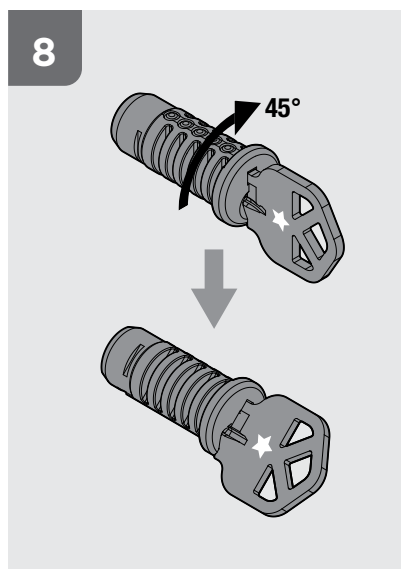
Insert new bottom pins, starting with the one closest to the key bow.



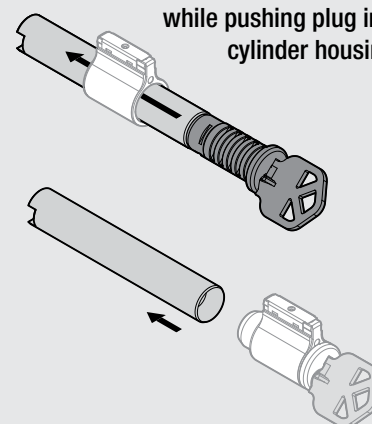
Check for shear line



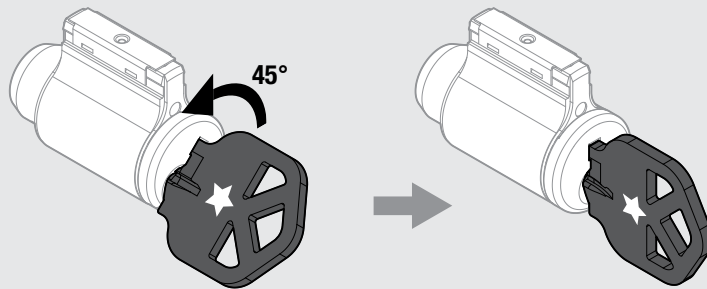
8



Keep plug and plug follower (B) tight against each other while pushing plug into cylinder housing.

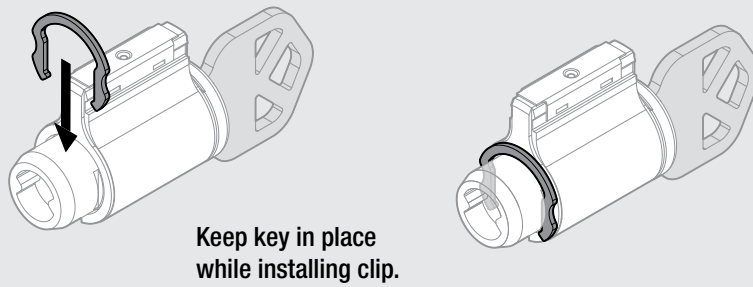


9

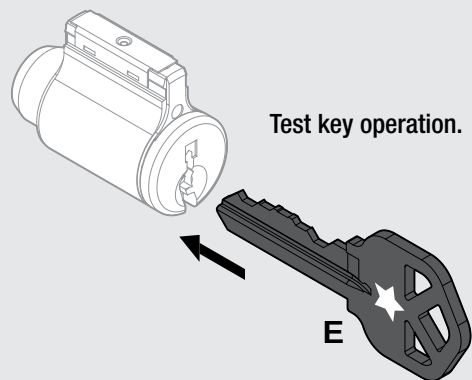
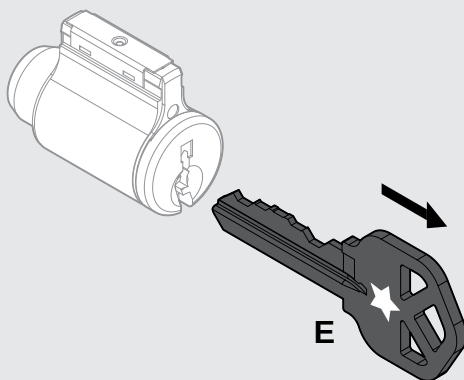


10

Install new clip.
Do not use old clip.

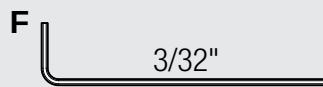
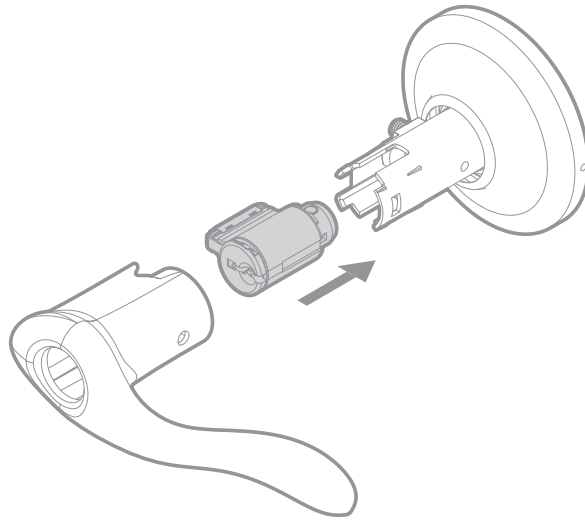


11

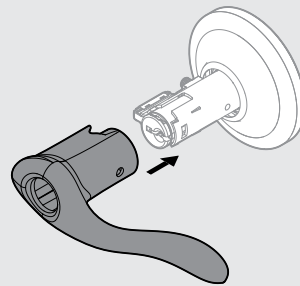
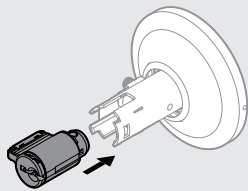


LEVER

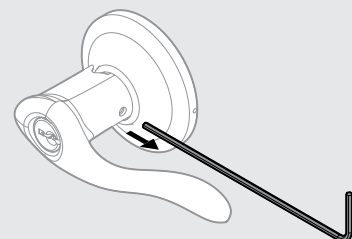
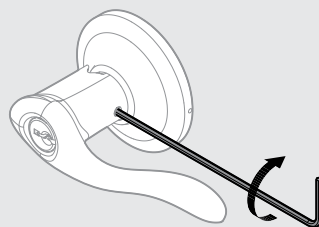
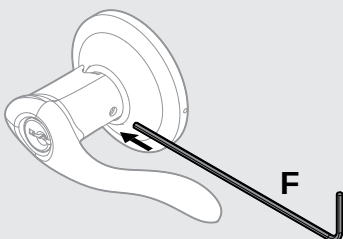
Cylinder Replacement



1



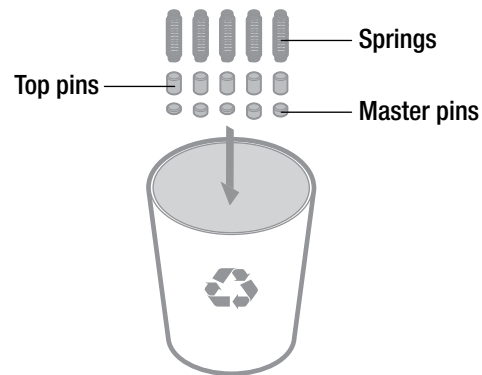
2



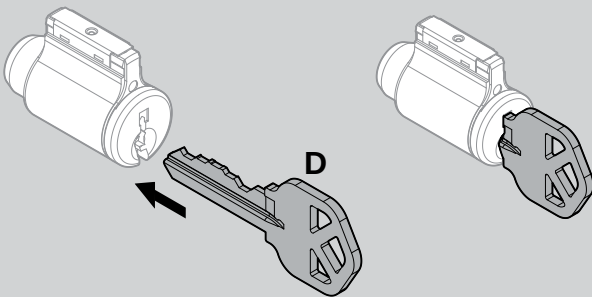
LEVER

Top Pin and Spring Removal

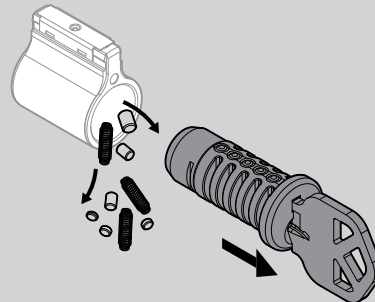
If a lock is changing from a two level master keyed cylinder to a single level keyed cylinder (where only one key cut combination will be able to open the lock), it is recommended that all master pins and top pins are removed and replaced.



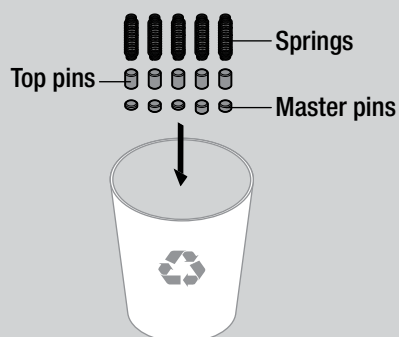
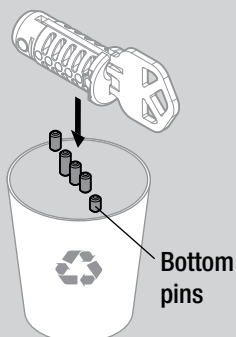
1



Caution: Plug contents are spring loaded.



2

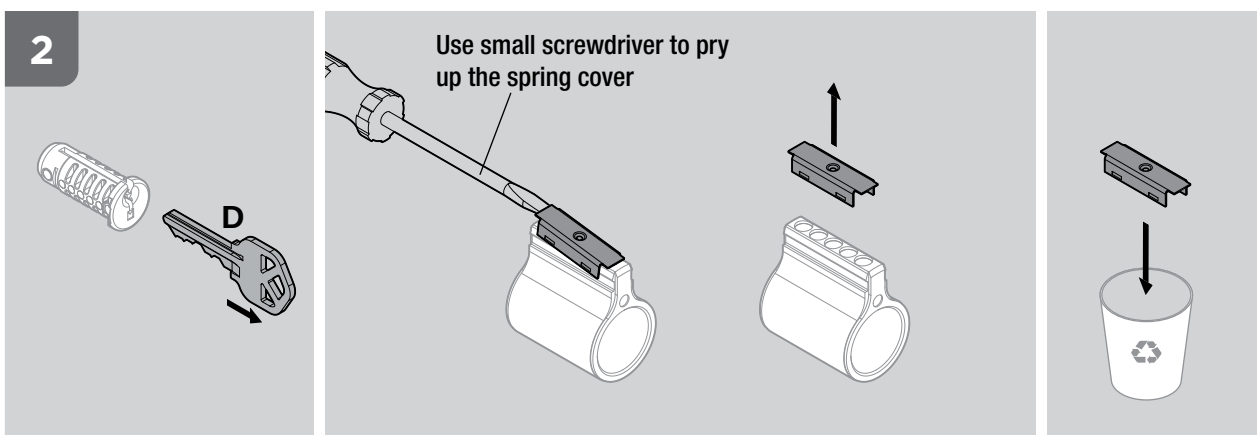
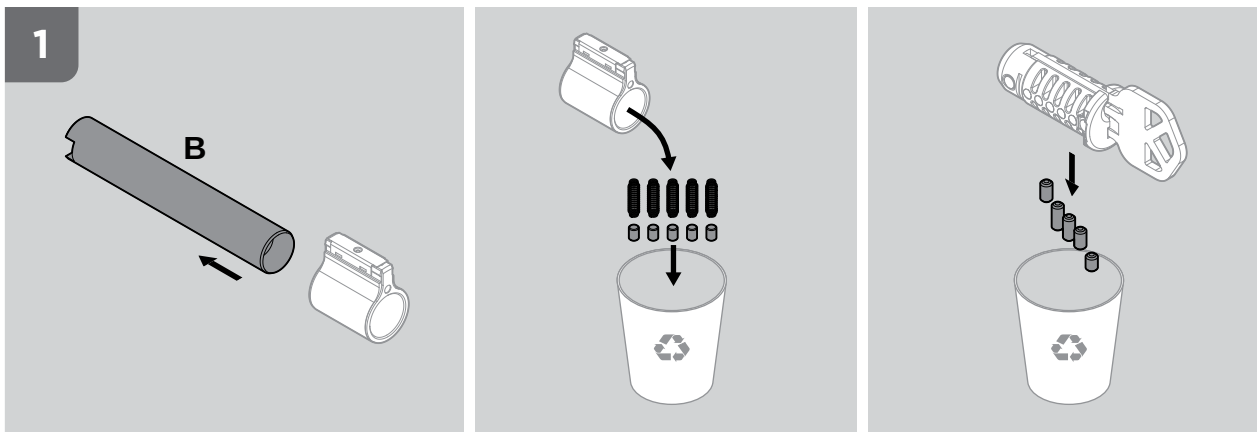
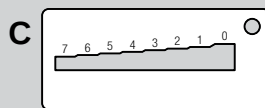
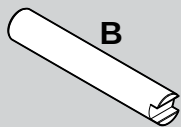
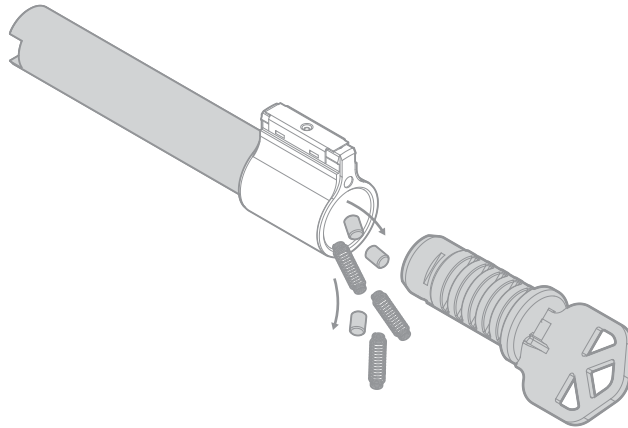


Proceed to Step 2 on page 52 and perform the procedure to rekey the lock and replace the top pins and springs.

LEVER

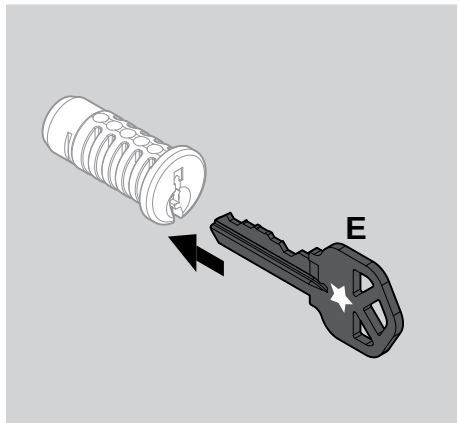
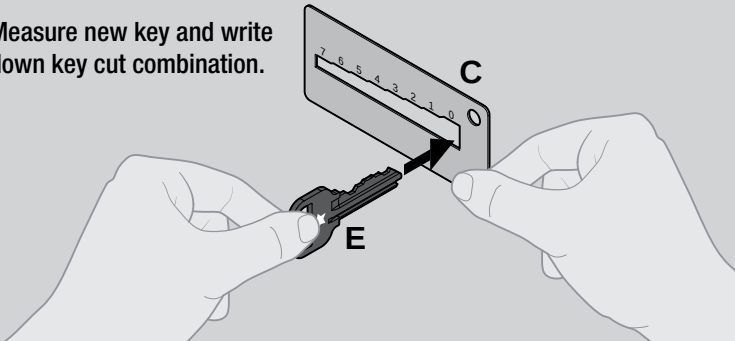
Top Pin and Spring Replacement

If the top pins and springs fall out while you are removing the plug from the cylinder, perform the procedure below to replace them and rekey the plug.



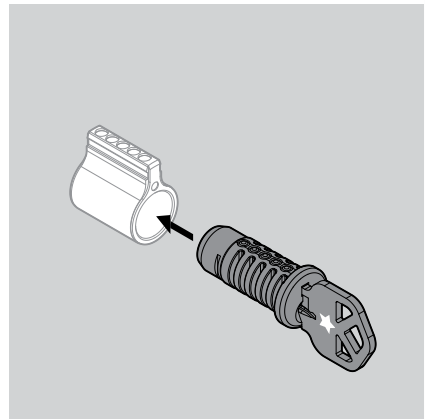
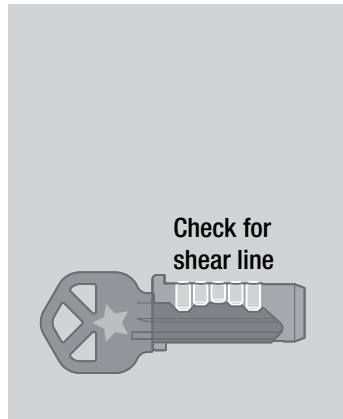
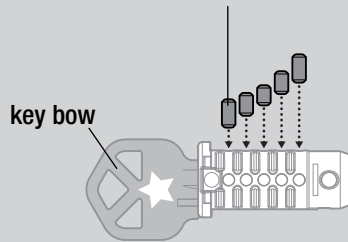
3

Measure new key and write down key cut combination.



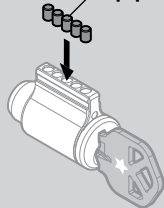
4

Insert new bottom pins, starting with the one closest to the key bow.

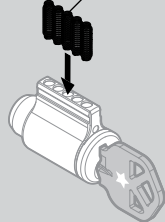


5

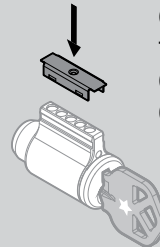
top pins (.180")



springs

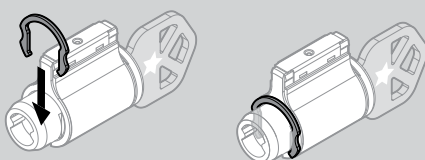


Install new spring cover. Press down firmly and be careful not to deform springs.

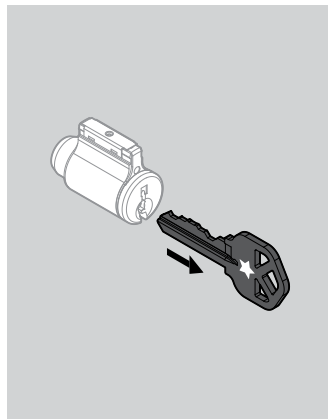


6

Install new clip. Do not use old clip.

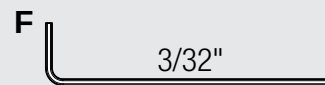
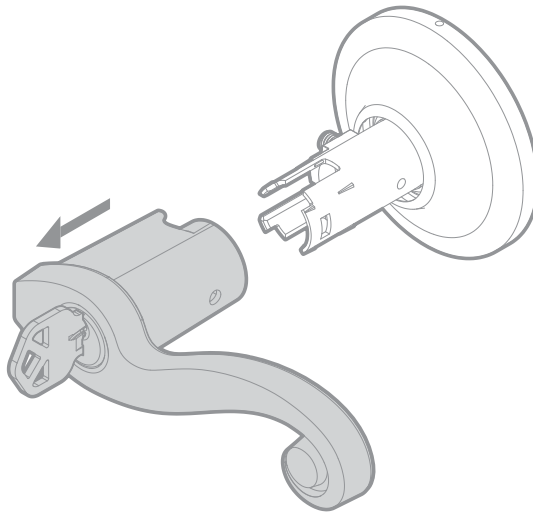


Keep key in place while installing clip.

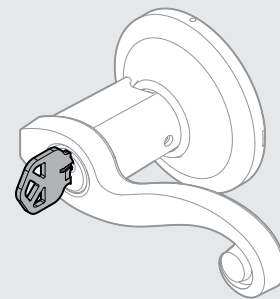
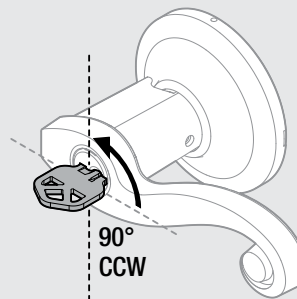
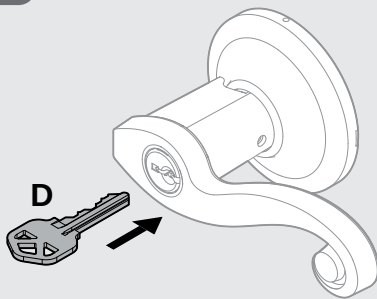


VESTIBULE LEVER

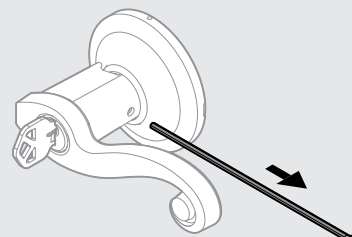
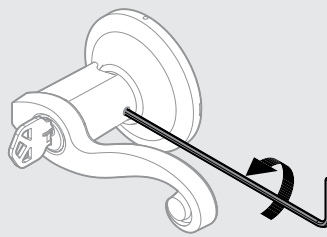
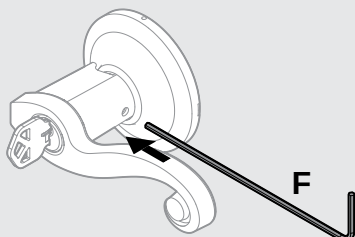
Cylinder Removal



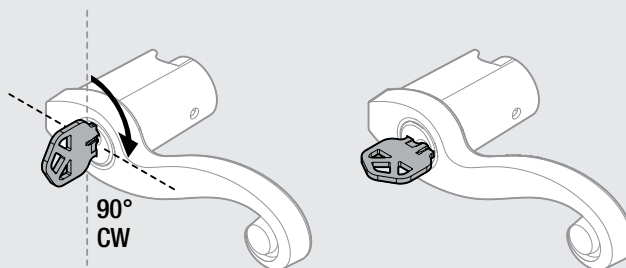
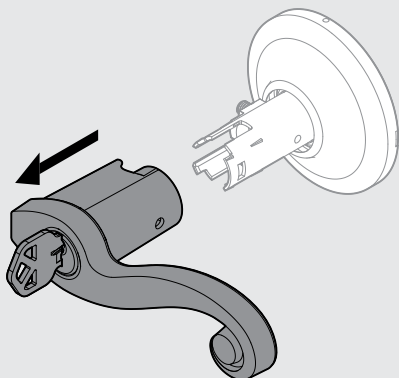
1



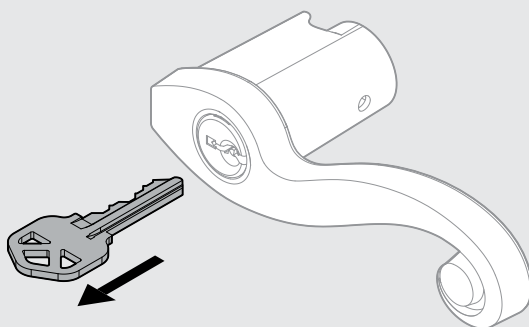
2



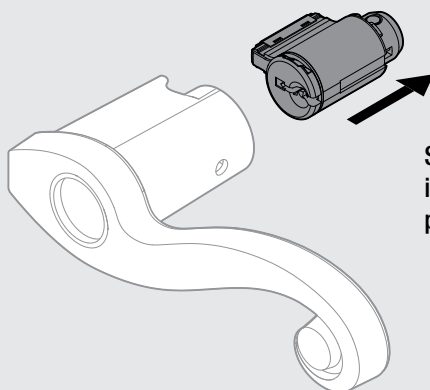
3



4



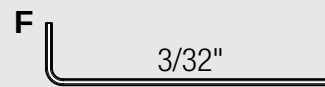
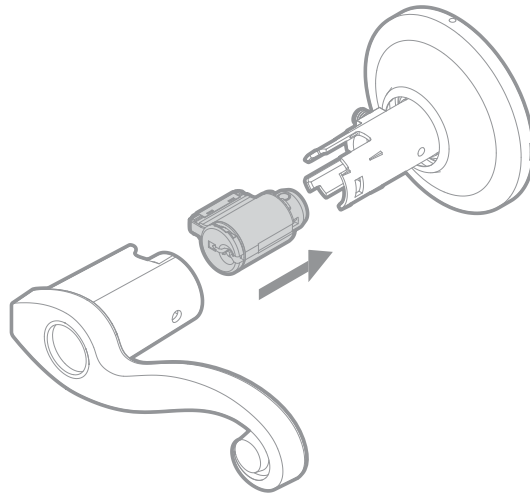
5



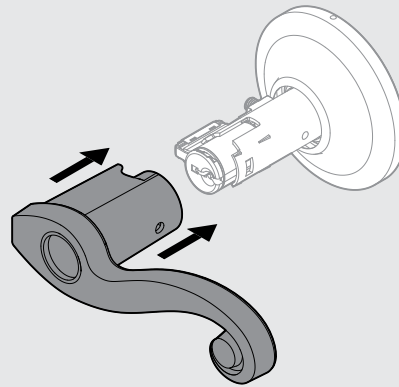
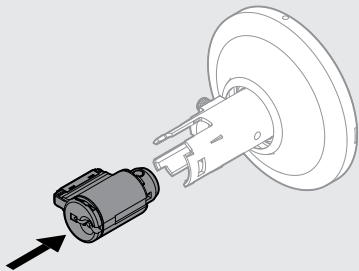
See rekeying
instructions on
page 46.

VESTIBULE LEVER

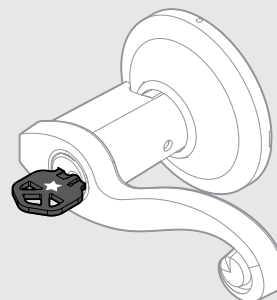
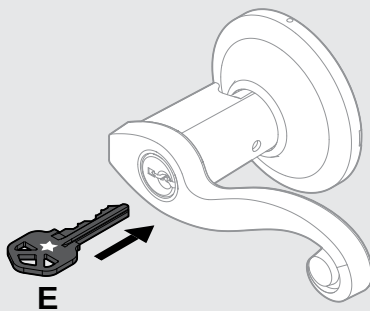
Cylinder Replacement



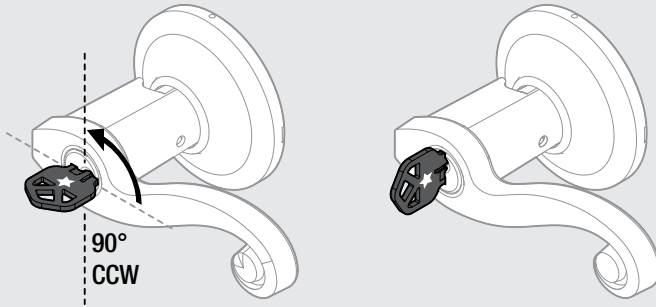
1



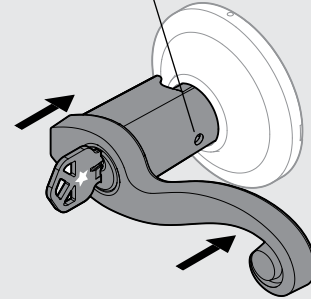
2



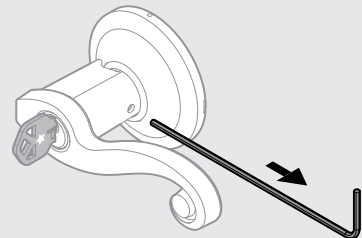
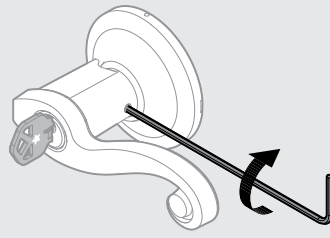
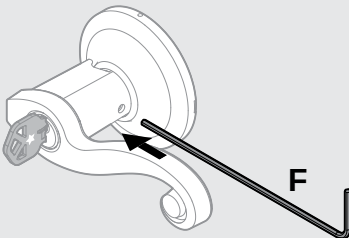
3



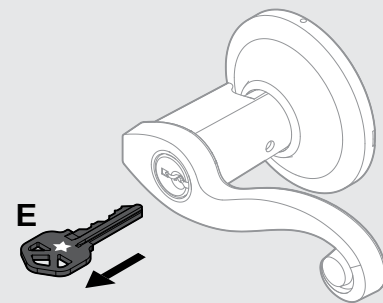
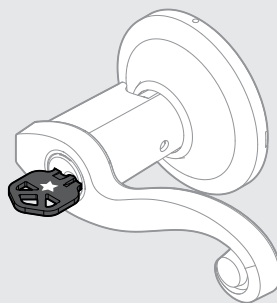
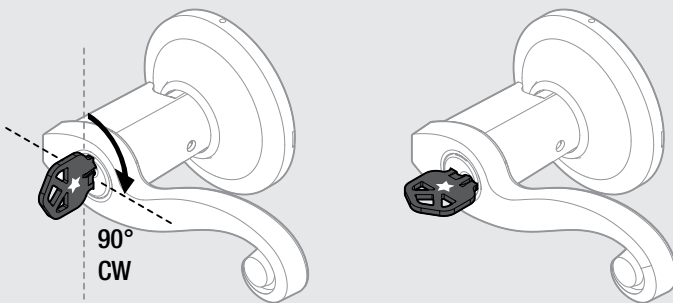
Push lever and cylinder
all the way against
chassis so that the
holes line up.



4

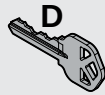
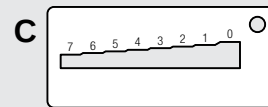
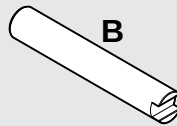
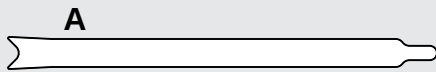
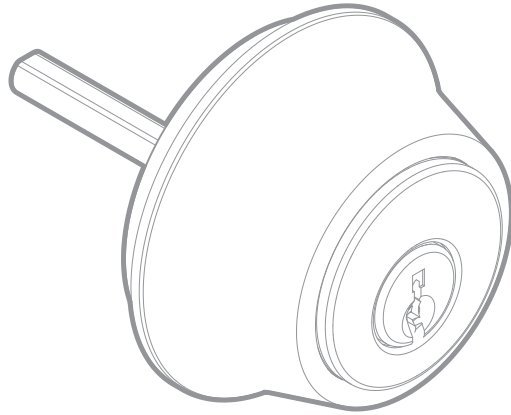


5



DEADBOLT (660/665)

Rekeying

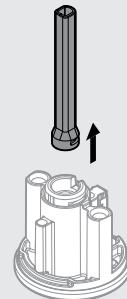
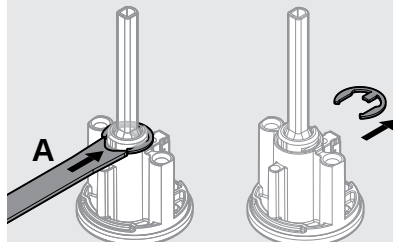
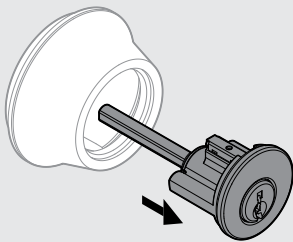


current key



new key

1

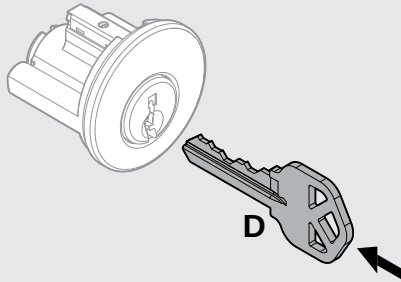


2

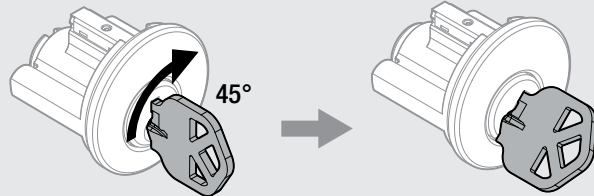
If this deadbolt was previously master keyed, it is recommended that all top pins and springs are removed and replaced. Stop here, and proceed to page 62.

If the deadbolt was not previously master keyed, continue on to step 3.

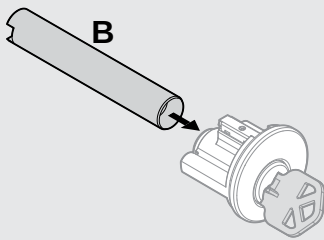
3



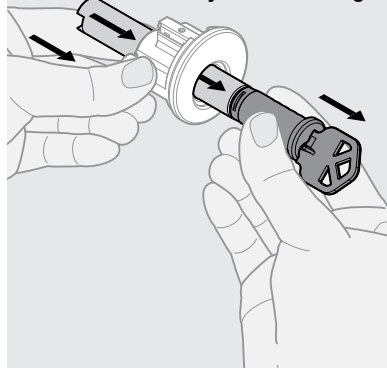
Be careful not to let the plug slip out of the cylinder housing.



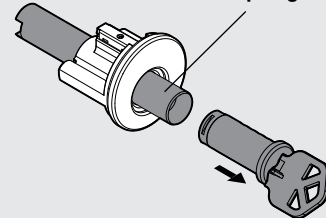
4



Keep plug and plug follower (B) tight against each other while pushing plug out of cylinder housing.

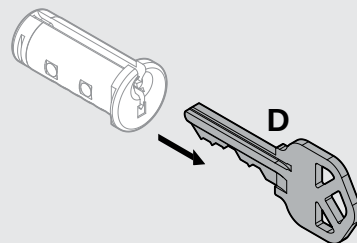
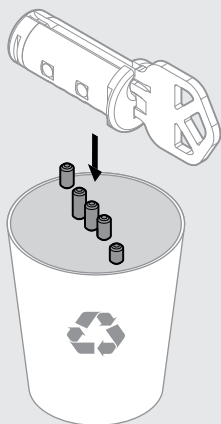


⚠ Leave plug follower (B) inside cylinder housing to keep top pins and springs in place.



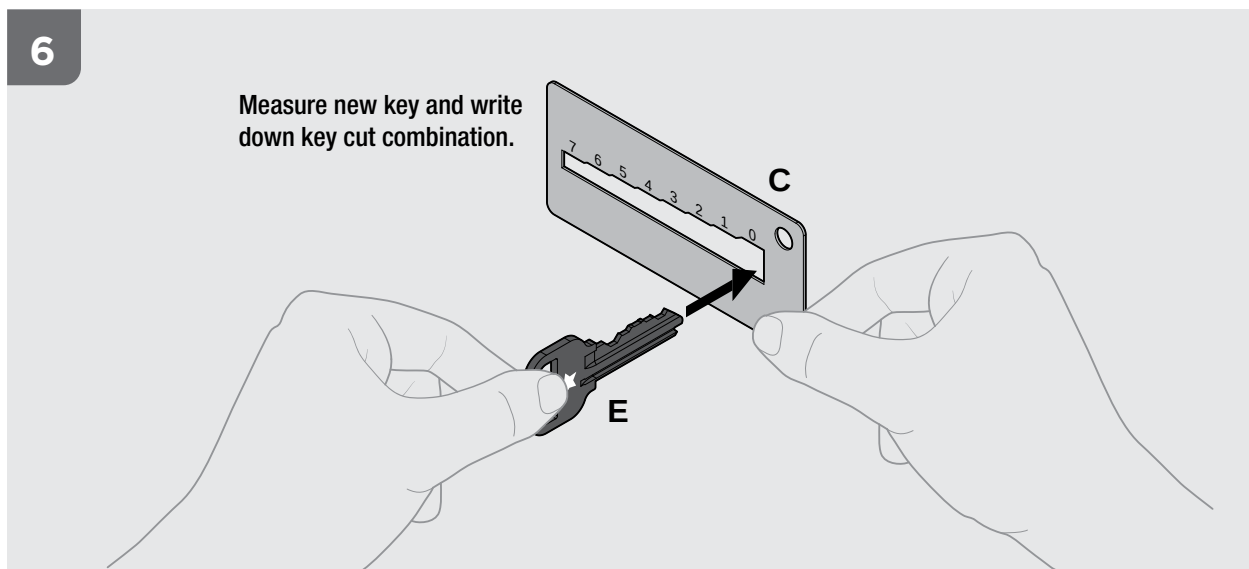
If top pins and springs fall out, see page 63.

5

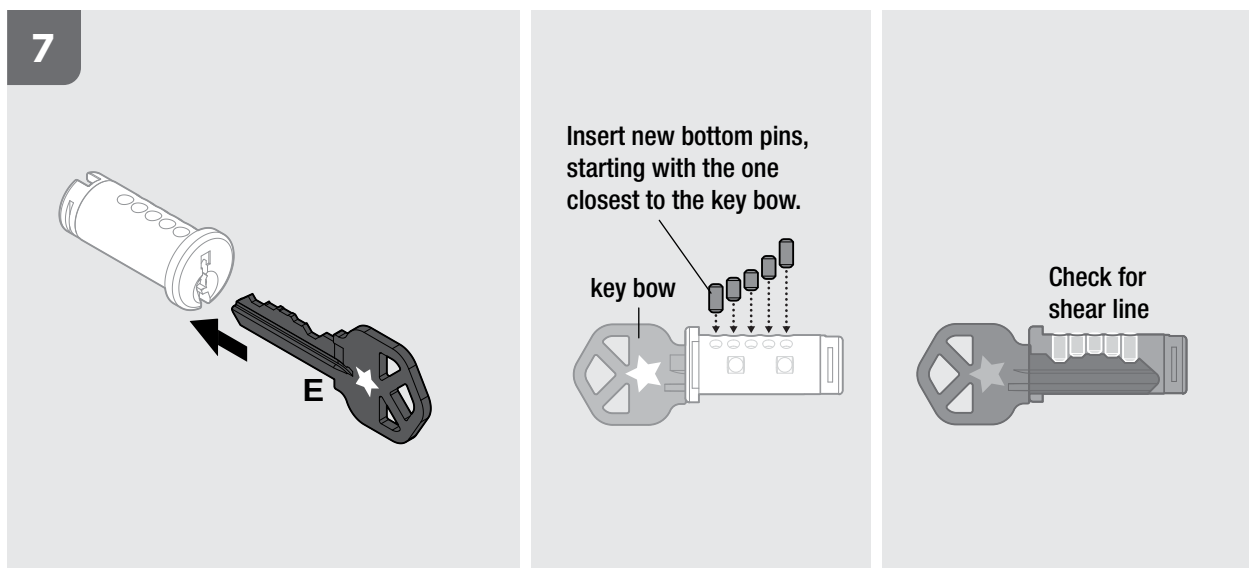


6

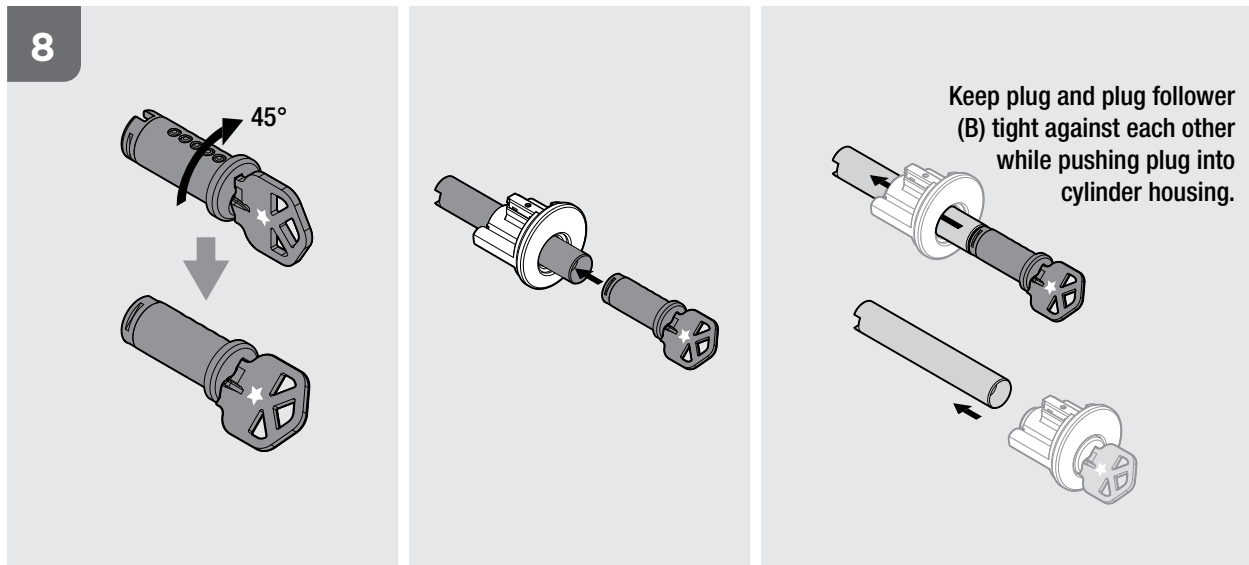
Measure new key and write down key cut combination.



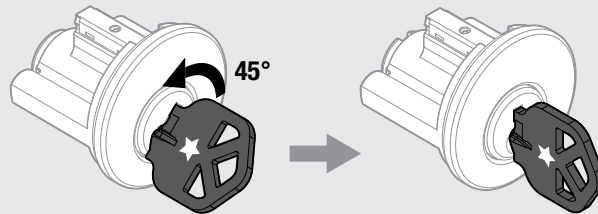
7



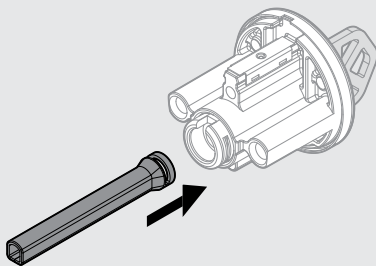
8



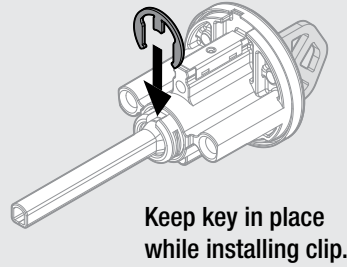
9



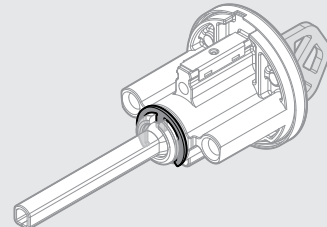
10



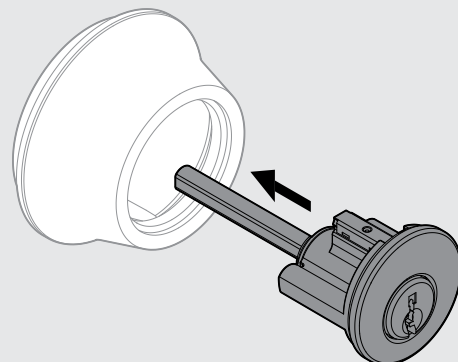
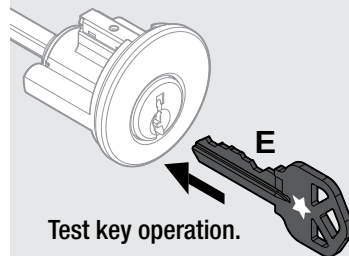
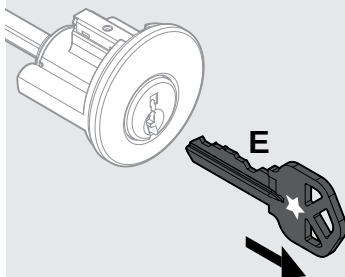
Install new clip.
Do not use old clip.



Keep key in place
while installing clip.



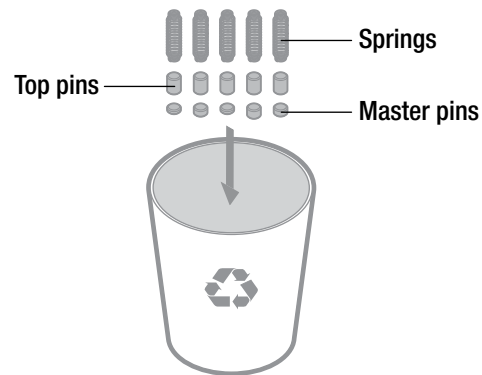
11



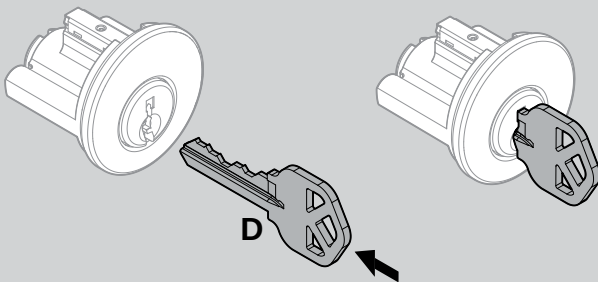
DEADBOLT (660/665)

Top Pin and Spring Removal

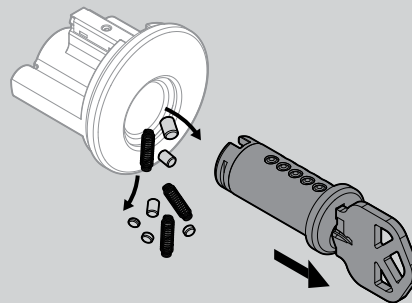
If a lock is changing from a two level master keyed cylinder to a single level keyed cylinder (where only one key cut combination will be able to open the lock), it is recommended that all master pins and top pins are removed and replaced.



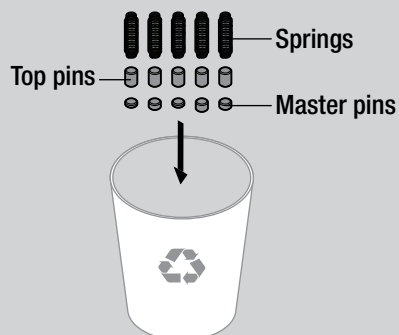
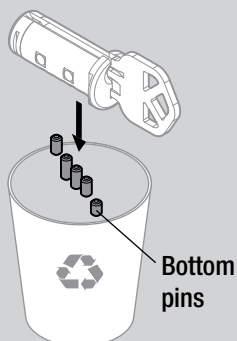
1



Caution: Plug contents are spring loaded.



2

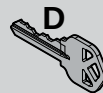
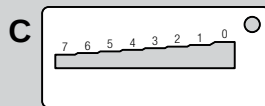
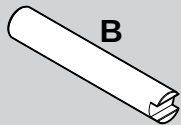
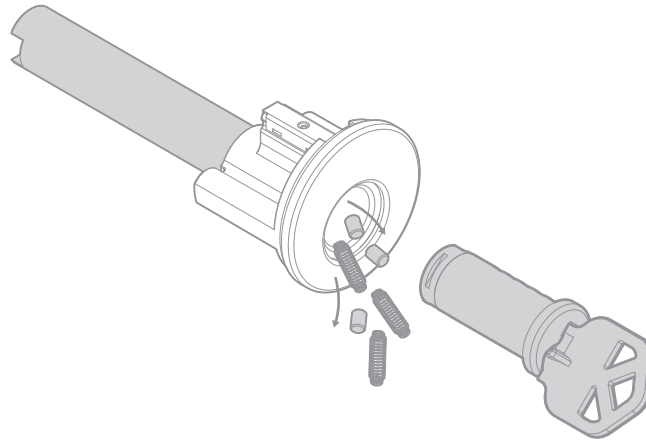


Proceed to Step 2 on page 63 and perform the procedure to rekey the lock and replace the top pins and springs.

DEADBOLT (660/665)

Top Pin and Spring Replacement

If the top pins and springs fall out while you are removing the plug from the cylinder, perform the procedure below to replace them and rekey the plug.

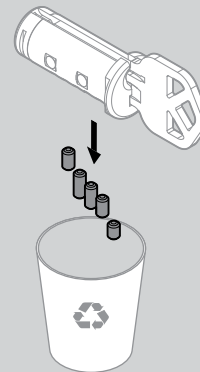
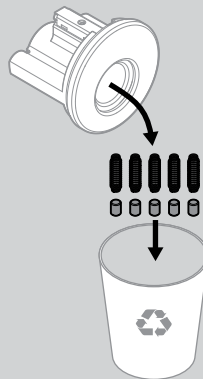
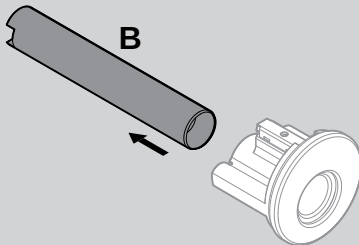


current key

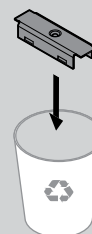
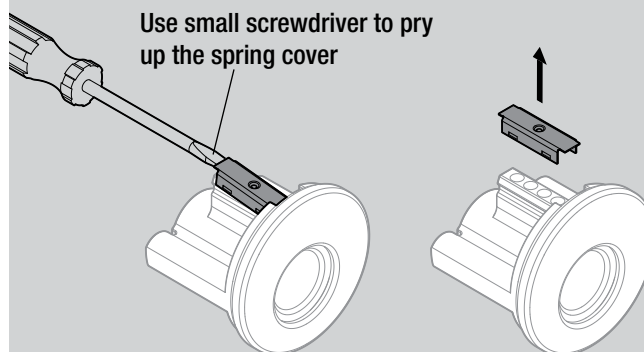
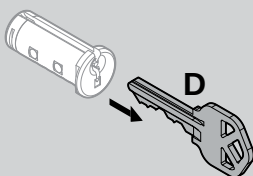


new key

1

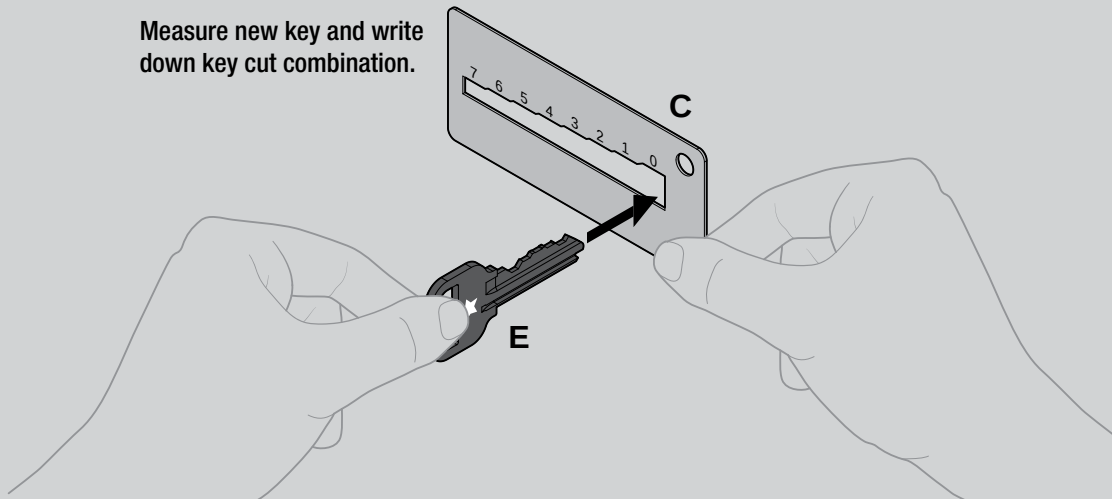


2

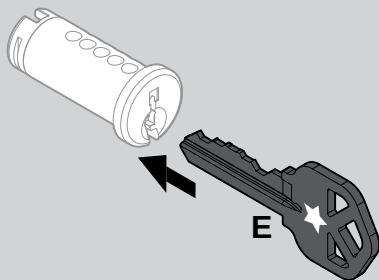


3

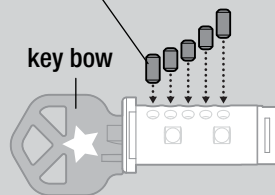
Measure new key and write down key cut combination.



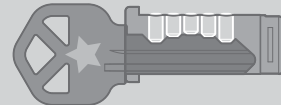
4



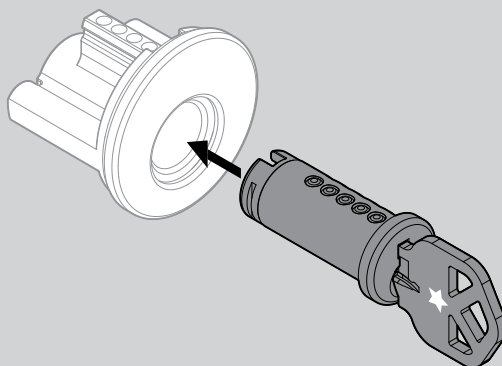
Insert new bottom pins, starting with the one closest to the key bow.



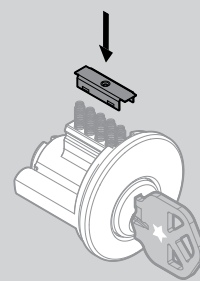
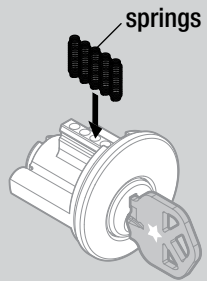
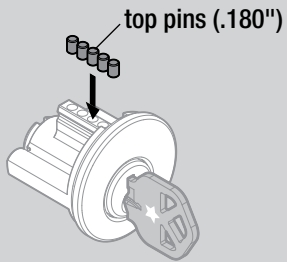
Check for shear line



5

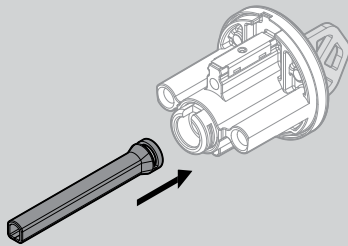


6

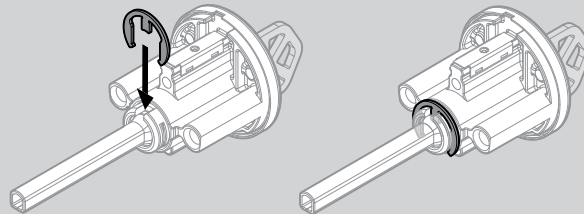


Install new spring cover. Press down firmly and be careful not to deform springs.

7

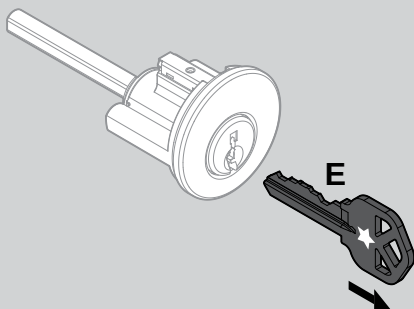


Install new clip.
Do not use old clip.

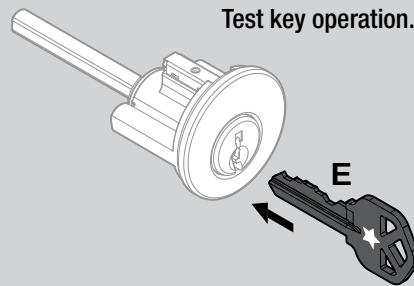


Keep key in place while installing clip.

8



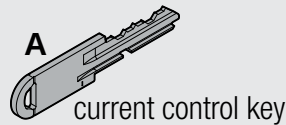
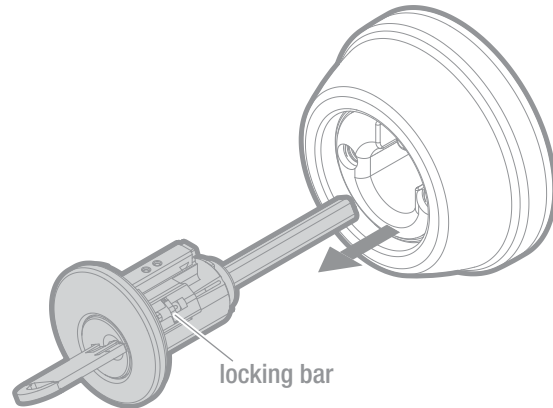
Test key operation.



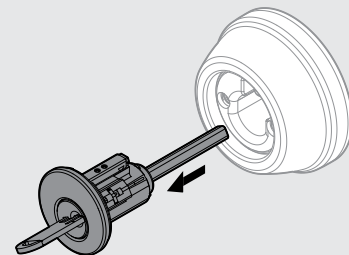
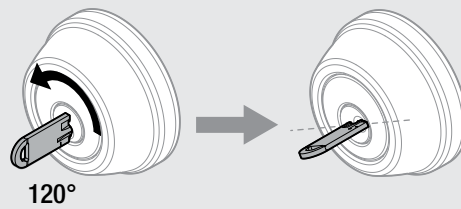
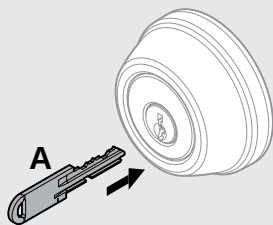
DEADBOLT (780/785)

Core Removal (with a Control Key)

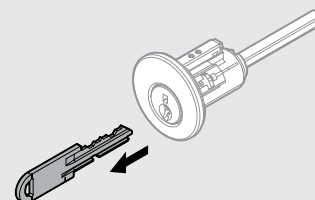
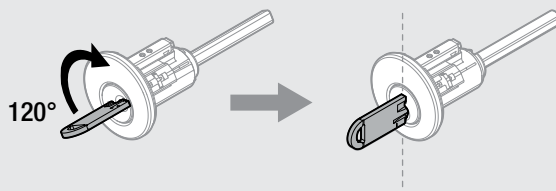
A removable core can be easily removed from a deadbolt with the use of a control key (A). The control key has the same key cut combination as the key that currently operates the lock, with the addition of a notch at the bottom of the key. When the control key turns 120° counterclockwise, this notch allows a spring loaded locking bar to become flush with the core and enables the core's removal from the lock.



1



2

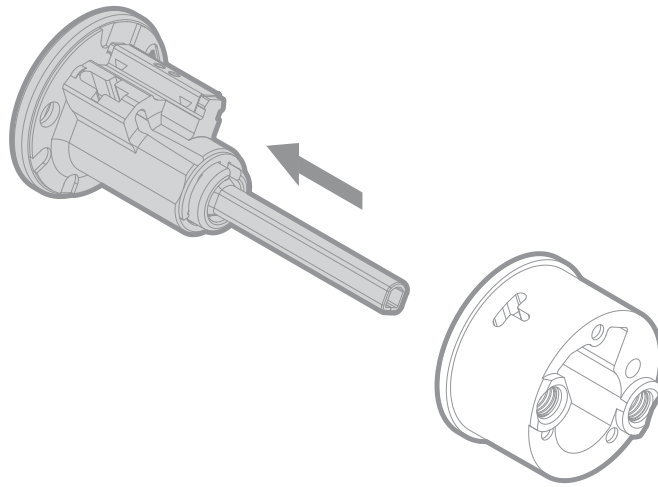


DEADBOLT (780/785)

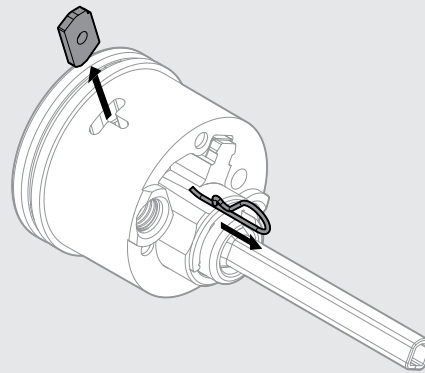
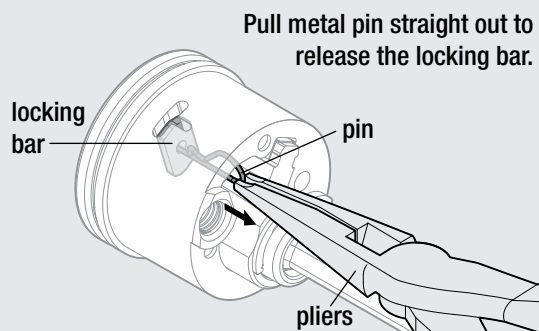
Core Removal (without a Control Key)

If you need to remove the core from the cylinder housing but do not have access to the lock's current control key, perform the following procedure.

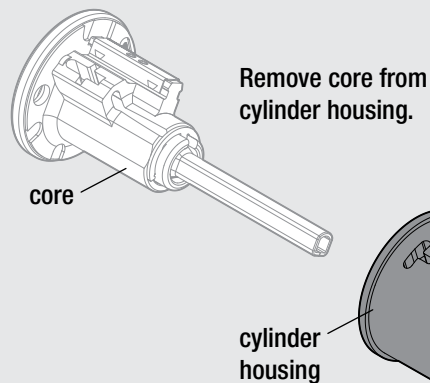
Note: You must have a control key in order to reinstall the core back in the cylinder housing.



1



2



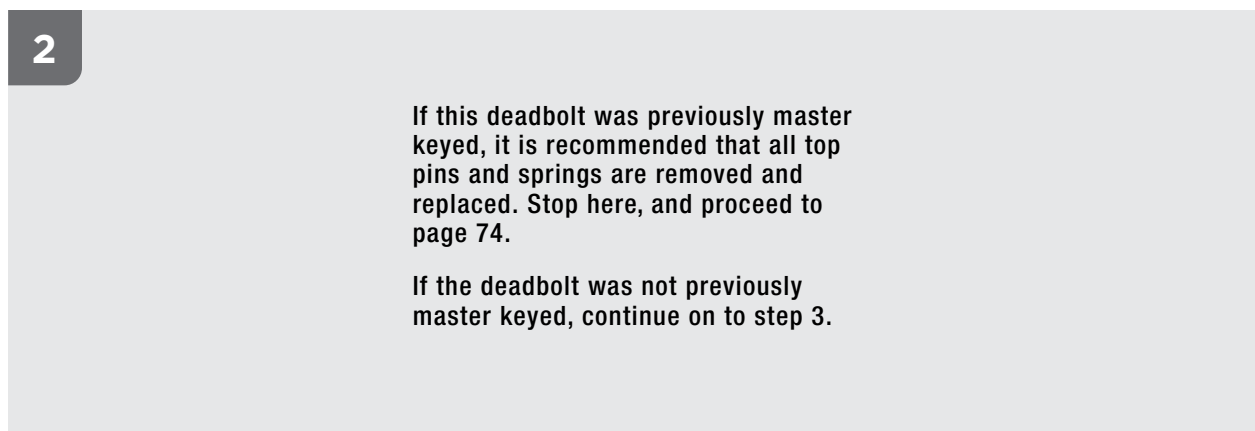
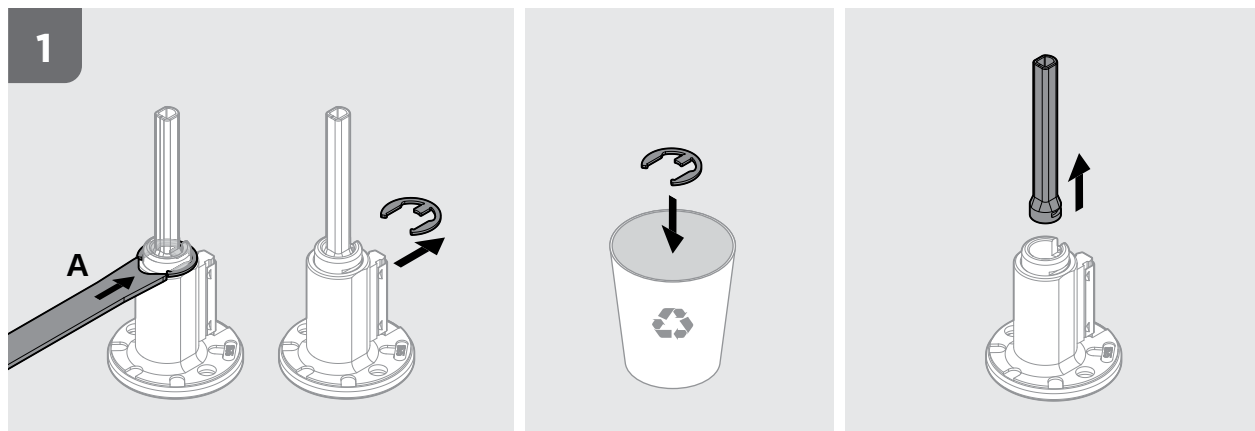
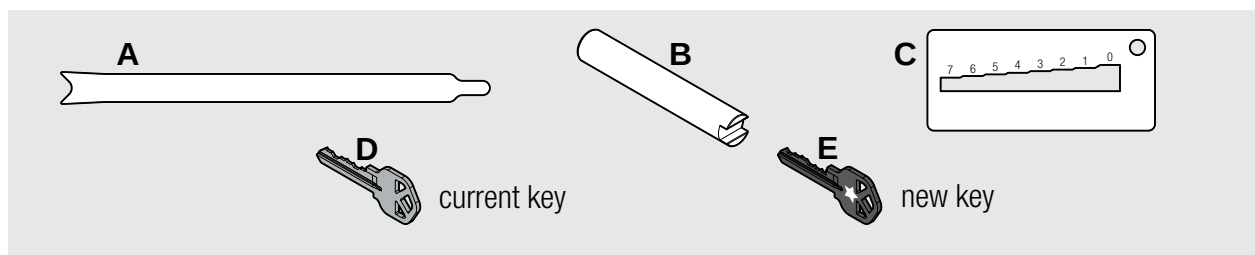
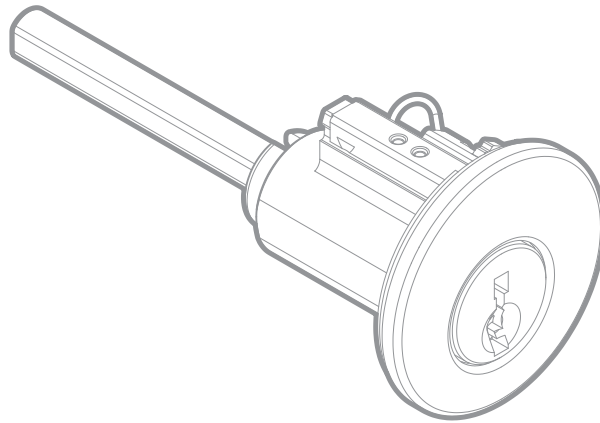
After rekeying, perform the procedure on page 72 to replace the locking bar.

DEADBOLT (780/785)

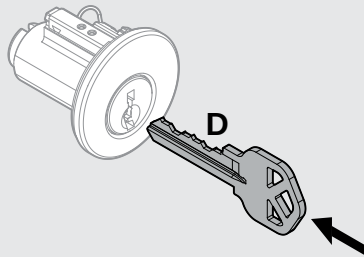
Rekeying

Once the core has been removed from the deadbolt, it may be rekeyed using either standard operating keys or control keys. Standard operating keys (D & E) are shown in the following illustrations.

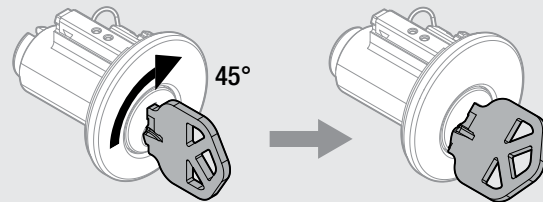
Removable cores contain six-pin plugs. Keep this in mind when gauging your key and repinning the plug.



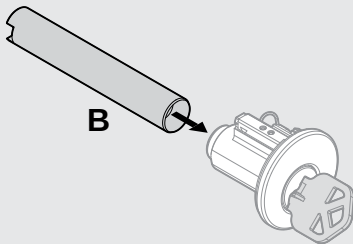
3



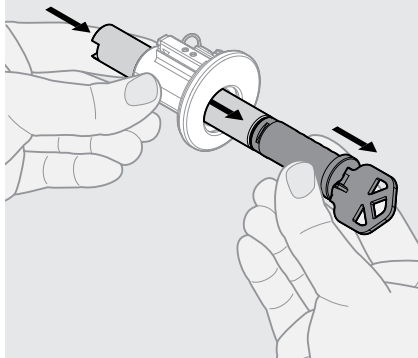
Be careful not to let the plug slip out of the cylinder housing.



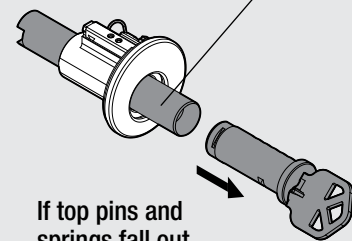
4



Keep plug and plug follower (B) tight against each other while pushing plug out of cylinder housing.

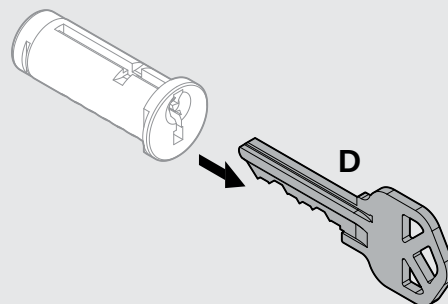
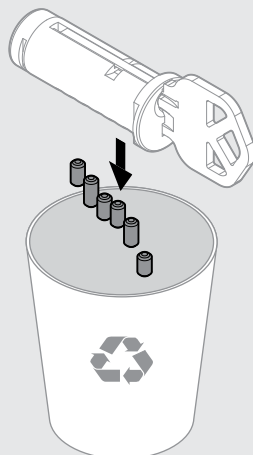


! Leave plug follower (B) inside cylinder housing to keep top pins and springs in place.



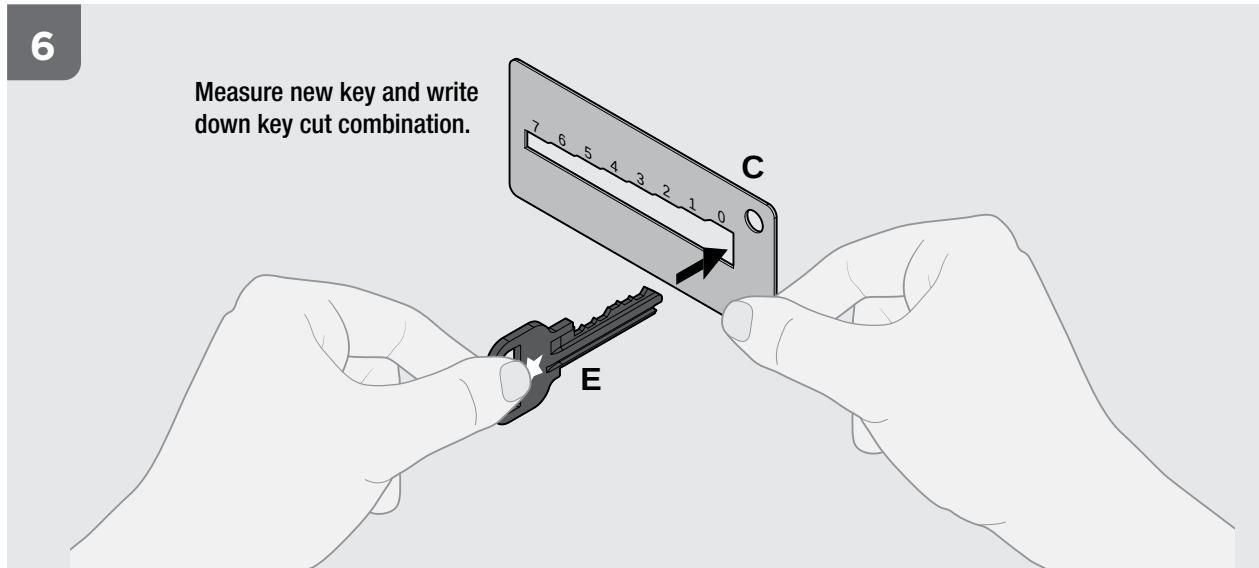
If top pins and springs fall out, see page 75.

5

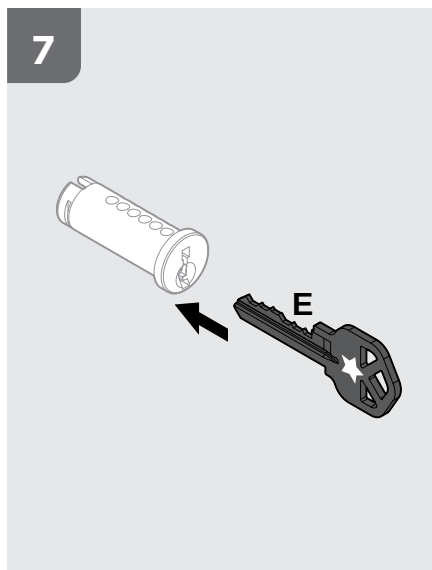


6

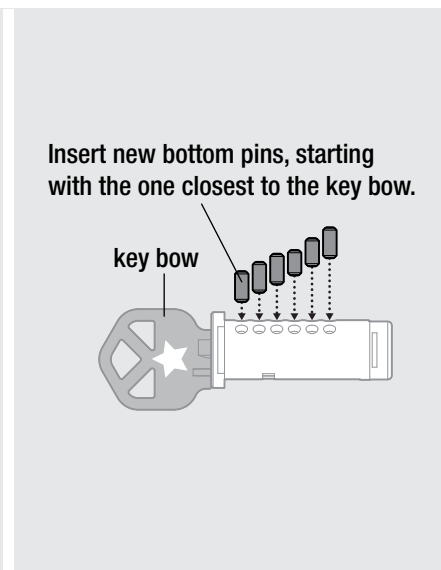
Measure new key and write down key cut combination.



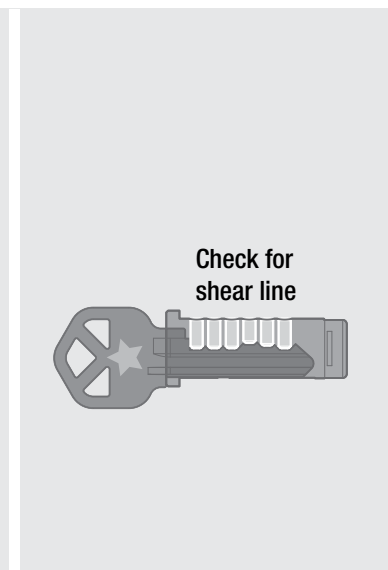
7



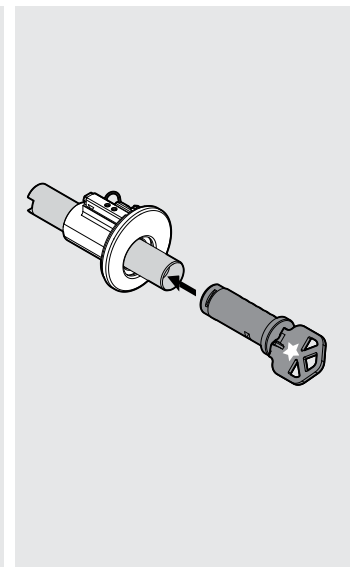
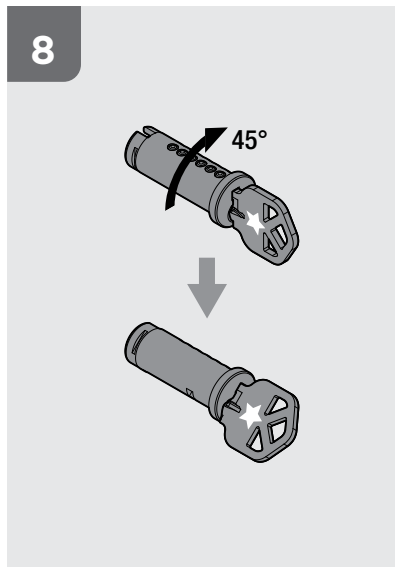
Insert new bottom pins, starting with the one closest to the key bow.



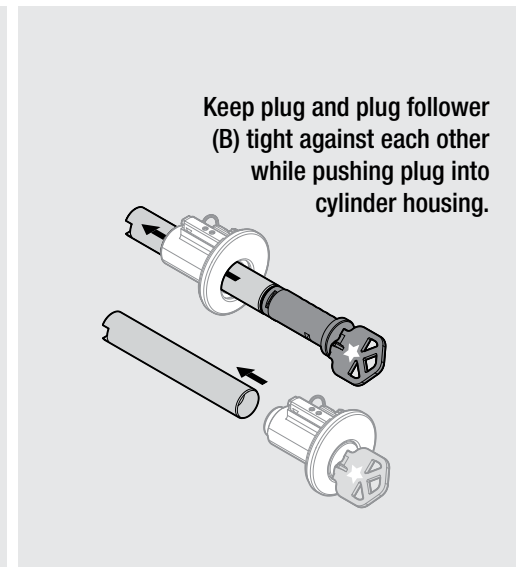
Check for shear line



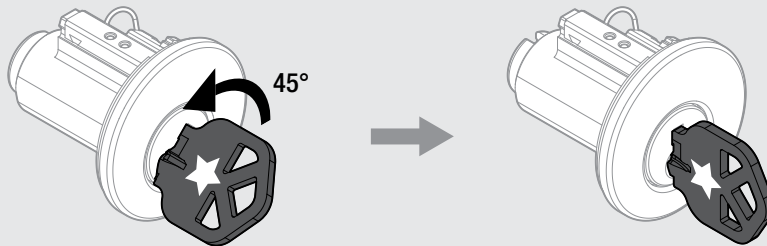
8



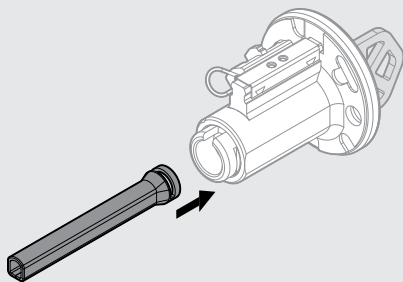
Keep plug and plug follower (B) tight against each other while pushing plug into cylinder housing.



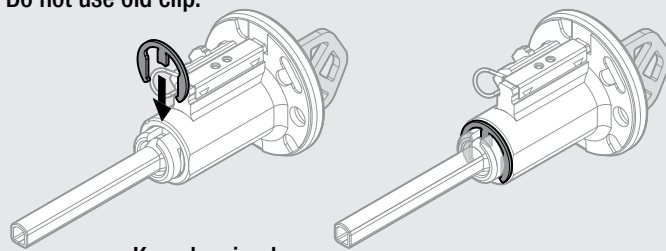
9



10

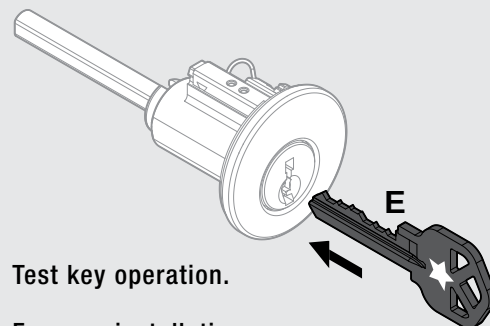
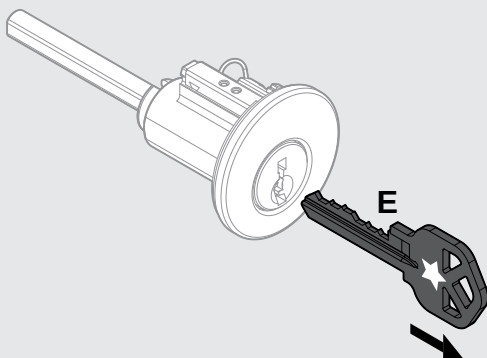


Install new clip.
Do not use old clip.



Keep key in place
while installing clip.

11



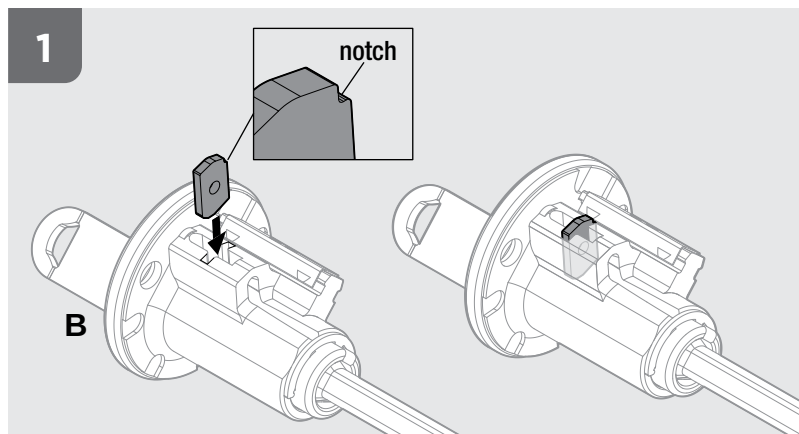
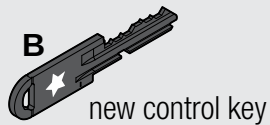
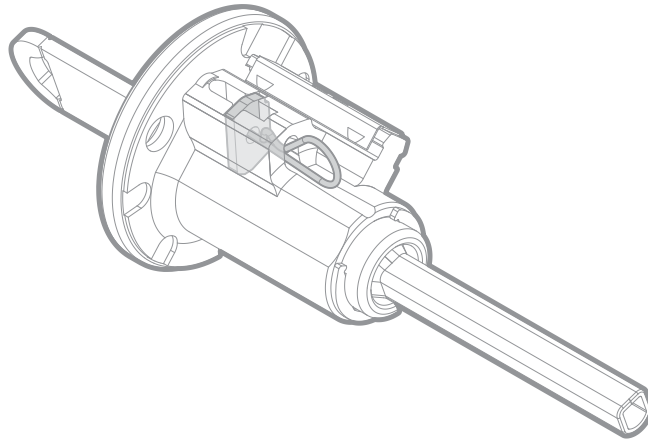
Test key operation.

For core installation
instructions, see page 73.

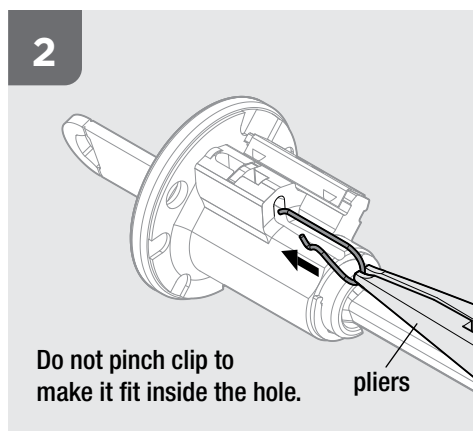
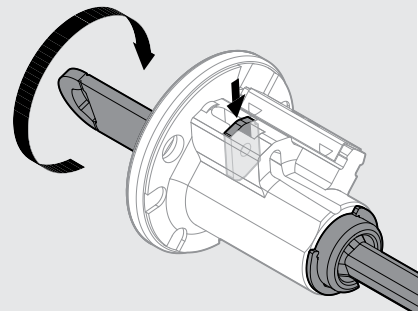
DEADBOLT (780/785)

Locking Bar Replacement

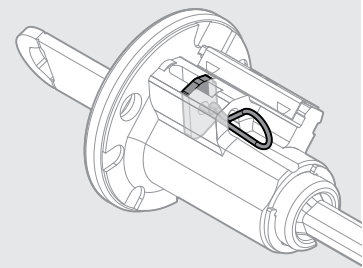
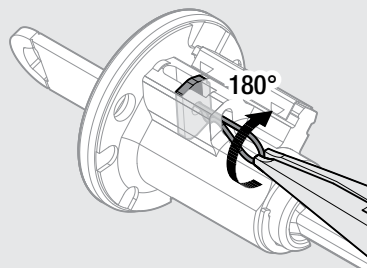
If the core was removed from the cylinder housing without the use of a control key, perform the procedure below to replace the locking bar. Once the locking bar is in place, the core may be reinstalled in the cylinder housing.



Rotate key until the locking bar becomes flush with the cylinder housing.

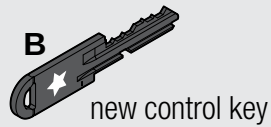
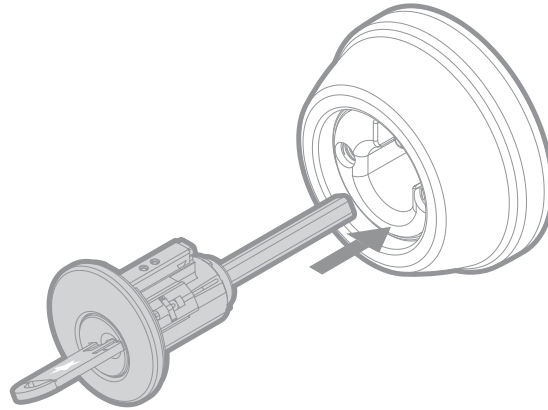


Once pin has been inserted into locking bar, rotate pin 180°.

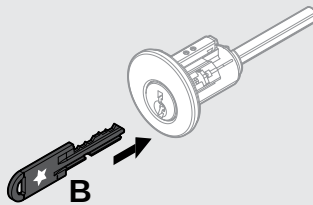


DEADBOLT (780/785)

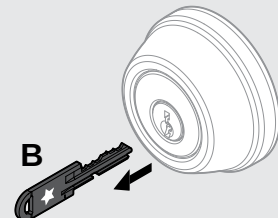
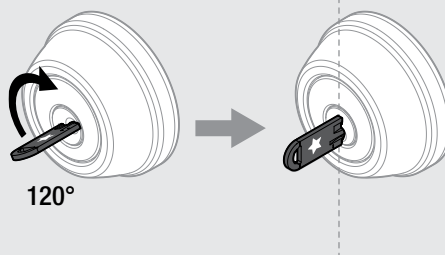
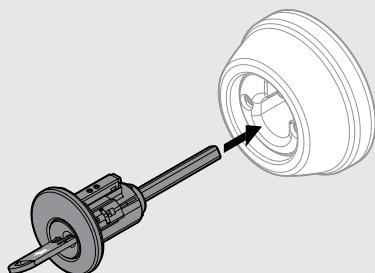
Core Replacement



1



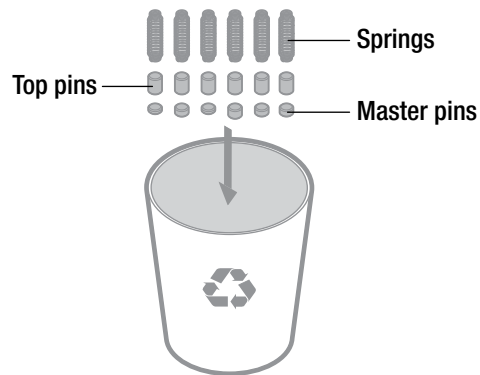
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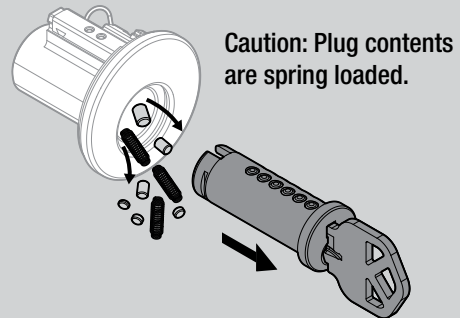
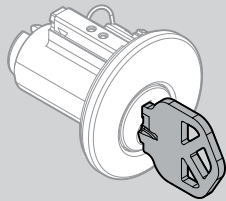
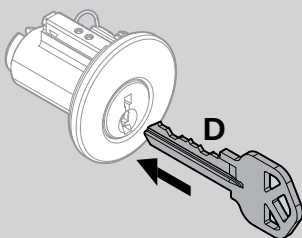
DEADBOLT (780/785)

Top Pin and Spring Removal

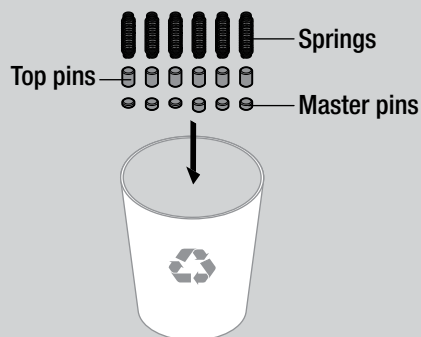
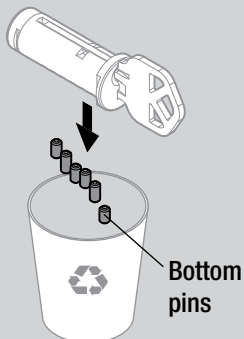
If a lock is changing from a two level master keyed cylinder to a single level keyed cylinder (where only one key cut combination will be able to open the lock), it is recommended that all master pins and top pins are removed and replaced.



1



2

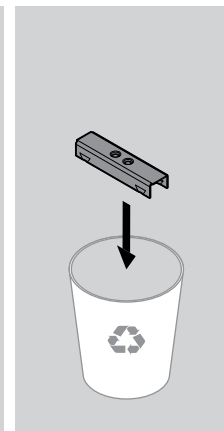
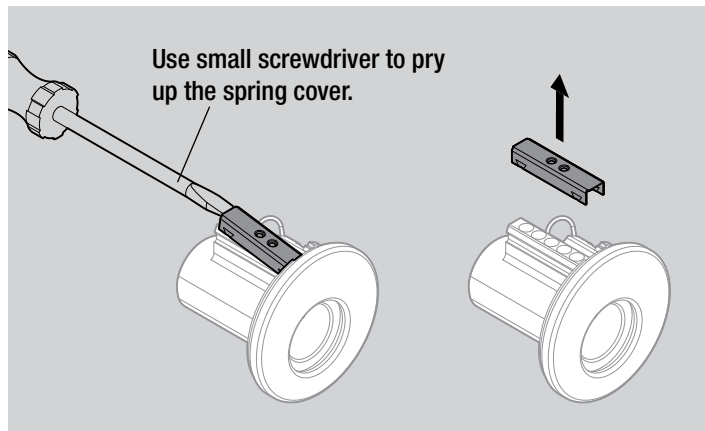
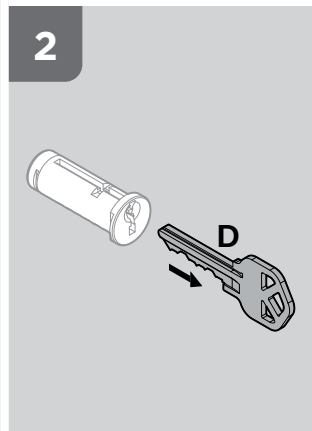
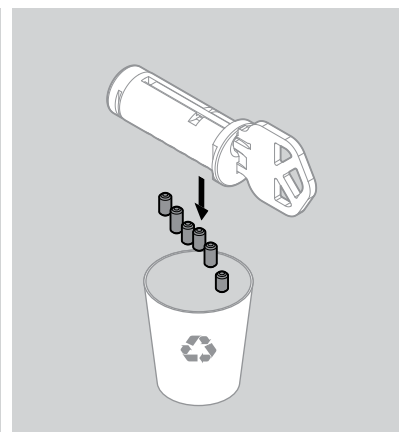
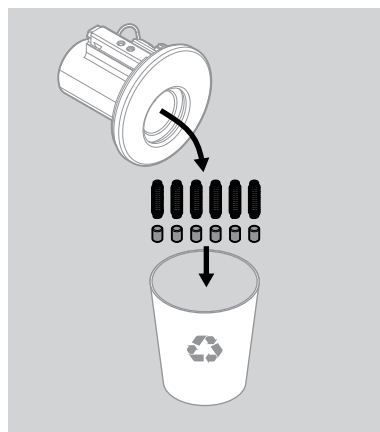
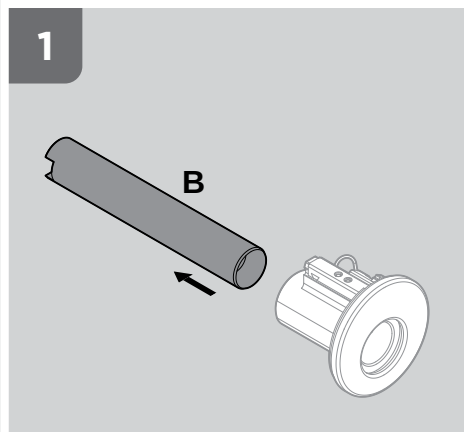
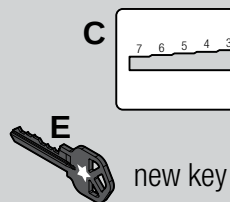
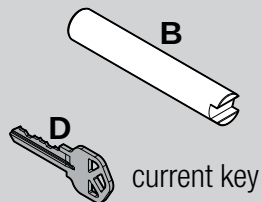
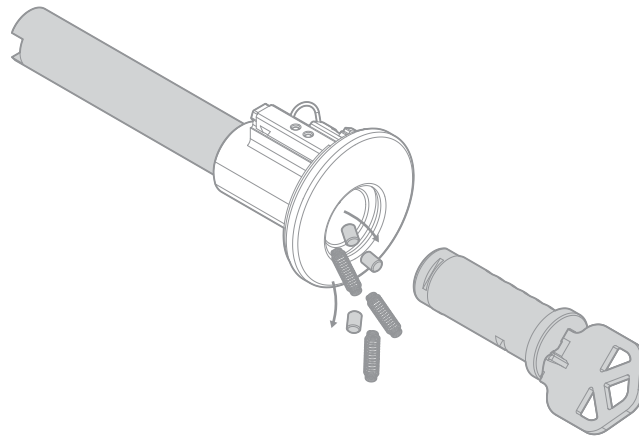


Proceed to Step 2 on page 75 and perform the procedure to rekey the lock and replace the top pins and springs.

DEADBOLT (780/785)

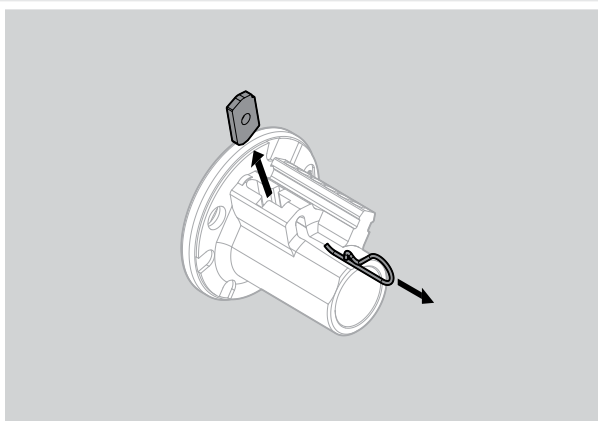
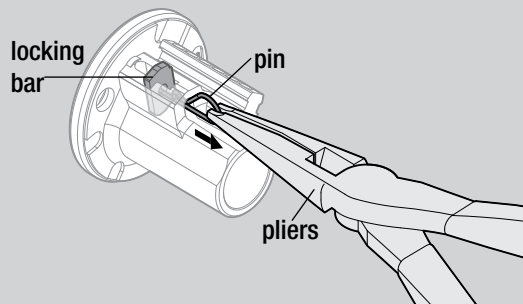
Top Pin and Spring Replacement

If the top pins and springs fall out while you are removing the plug from the cylinder, perform the procedure below to replace them and rekey the plug.



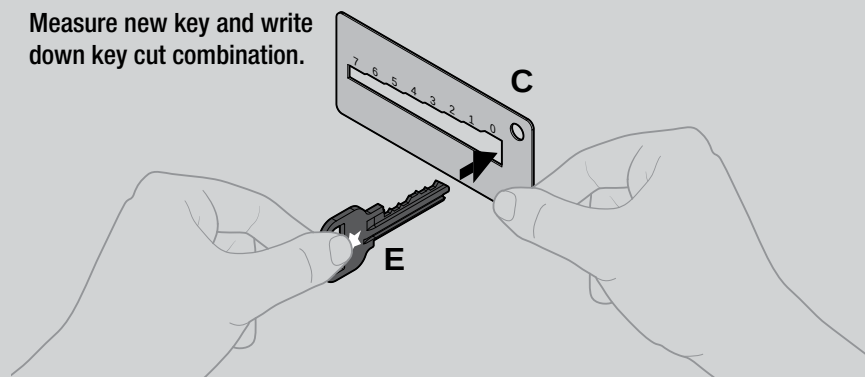
3

Pull metal pin straight out to release the locking bar.

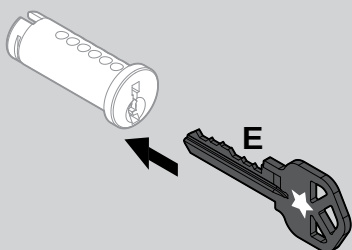


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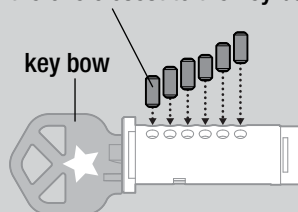
Measure new key and write down key cut combination.



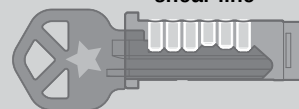
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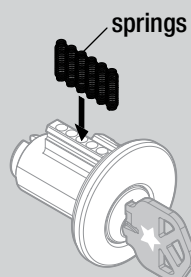
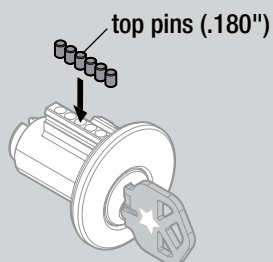
Insert new bottom pins, starting with the one closest to the key bow.



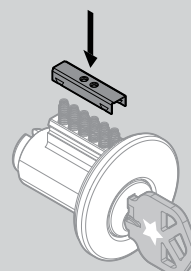
Check for shear line



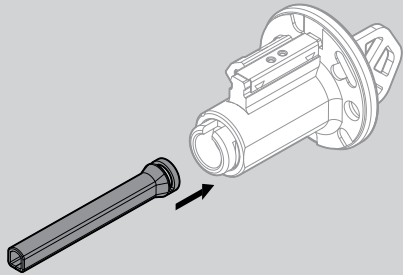
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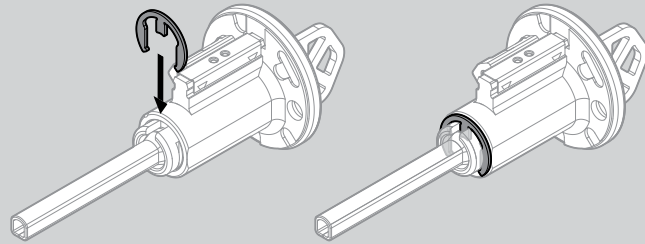
Install new spring cover. Press down firmly and be careful not to deform springs.



7

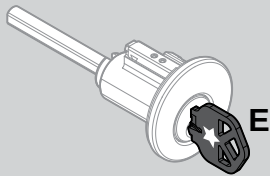


Install new clip.
Do not use old clip.

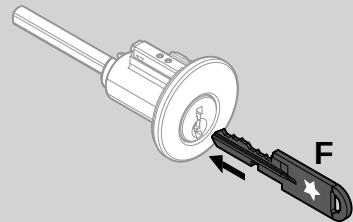
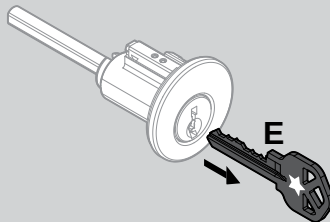


Keep key in place while installing clip.

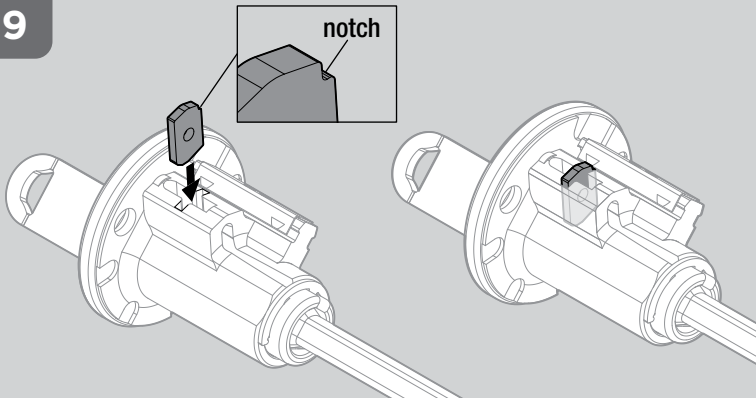
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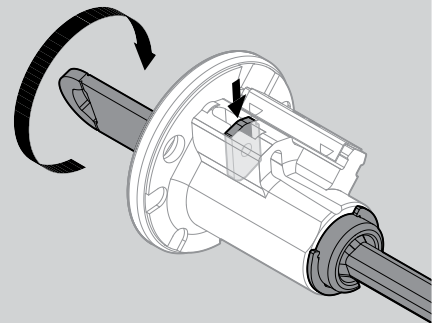
Test key operation.



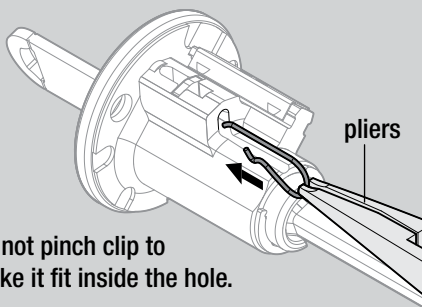
9



Rotate key until the locking bar becomes flush with the cylinder housing.

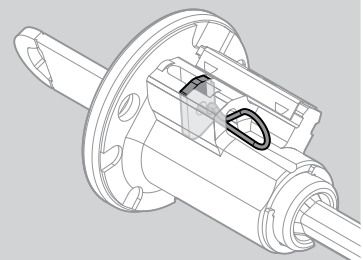
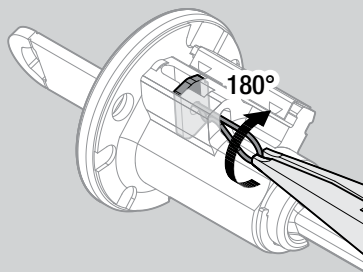


10



Do not pinch clip to make it fit inside the hole.

Once pin has been inserted into locking bar, rotate pin 180°.

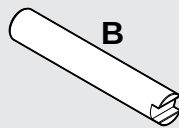
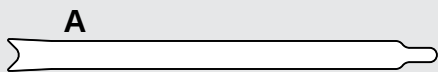
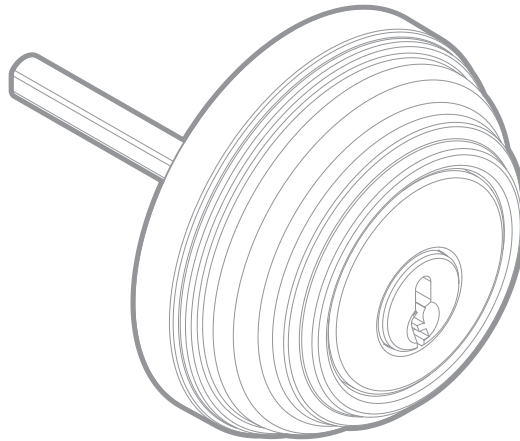


For core installation instructions, see page 73.

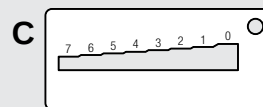
DEADBOLT (980/985)

Rekeying

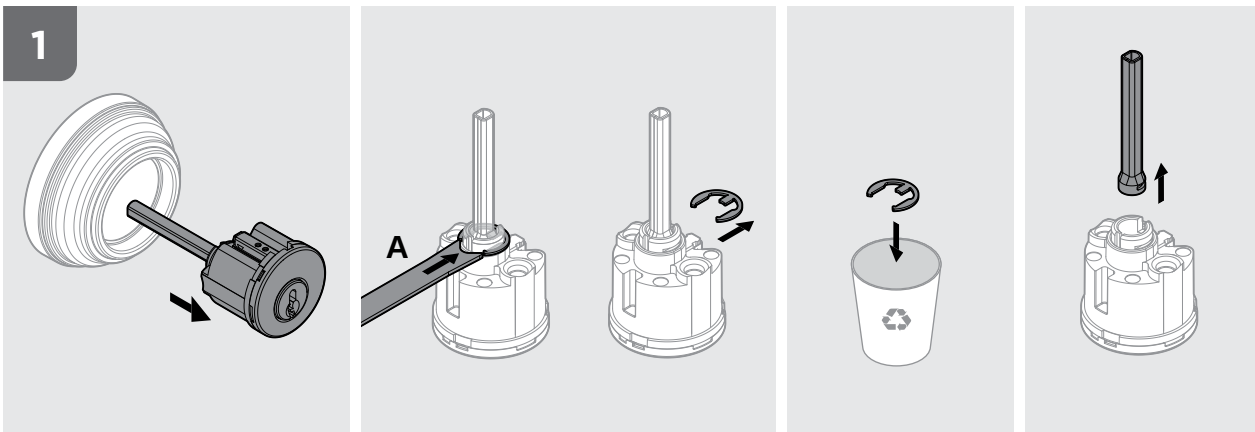
A 980 deadbolt contains a six-pin plug. Keep this in mind when gauging your key and repinning the plug.



D current key



E new key

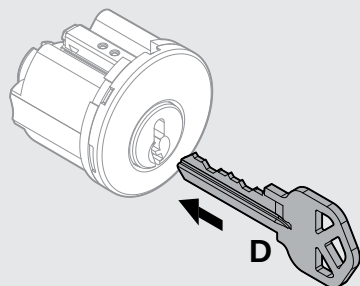


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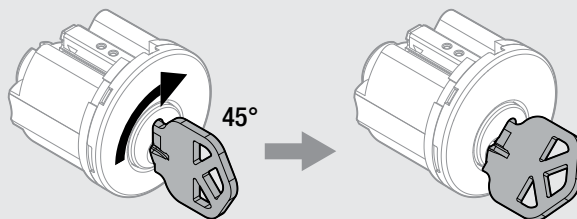
If this deadbolt was previously master keyed, it is recommended that all top pins and springs are removed and replaced. Stop here, and proceed to page 82.

If the deadbolt was not previously master keyed, continue on to step 3.

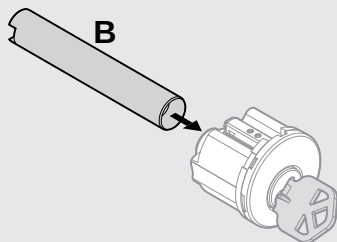
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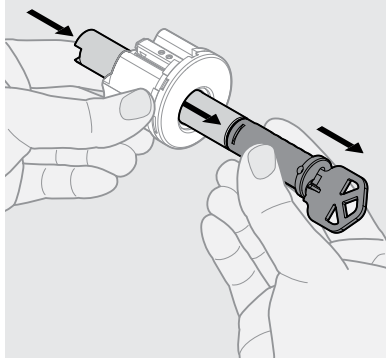
Be careful not to let the plug slip out of the cylinder housing.



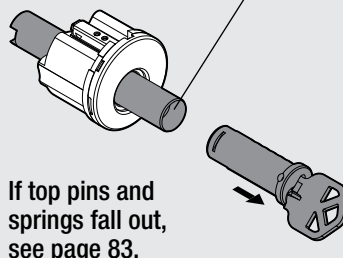
4



Keep plug and plug follower (B) tight against each other while pushing plug out of cylinder housing.

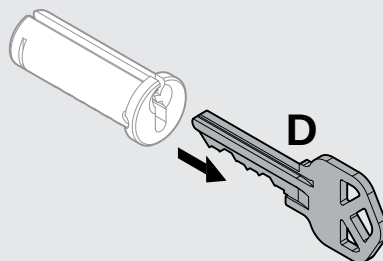
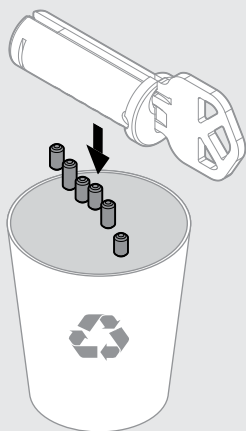


⚠ Leave plug follower (B) inside cylinder housing to keep top pins and springs in place.



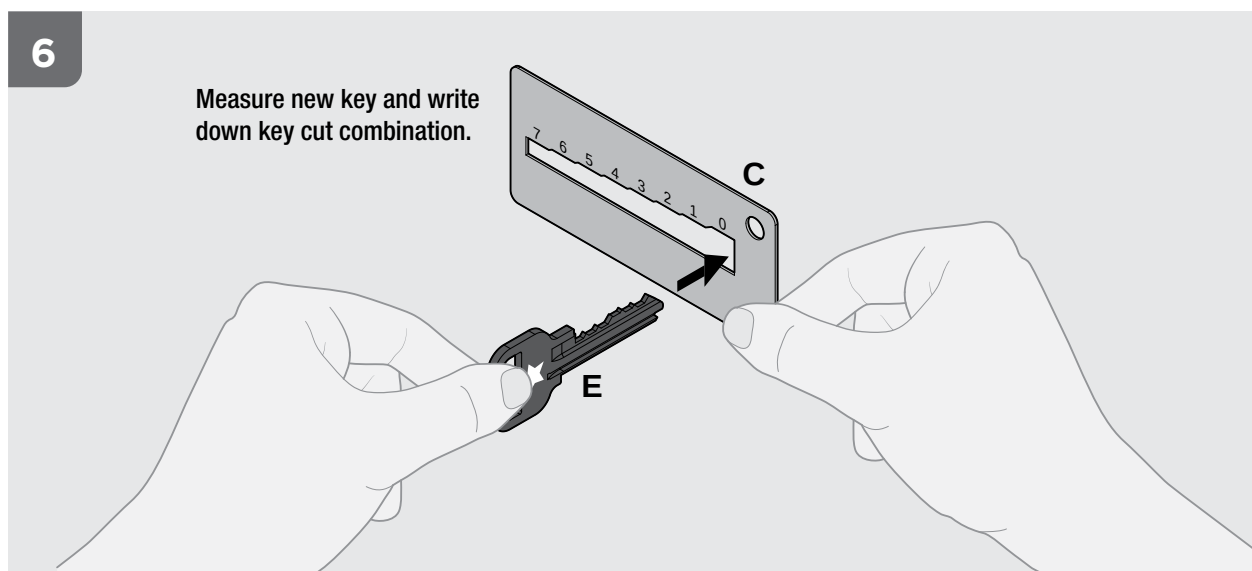
If top pins and springs fall out, see page 83.

5

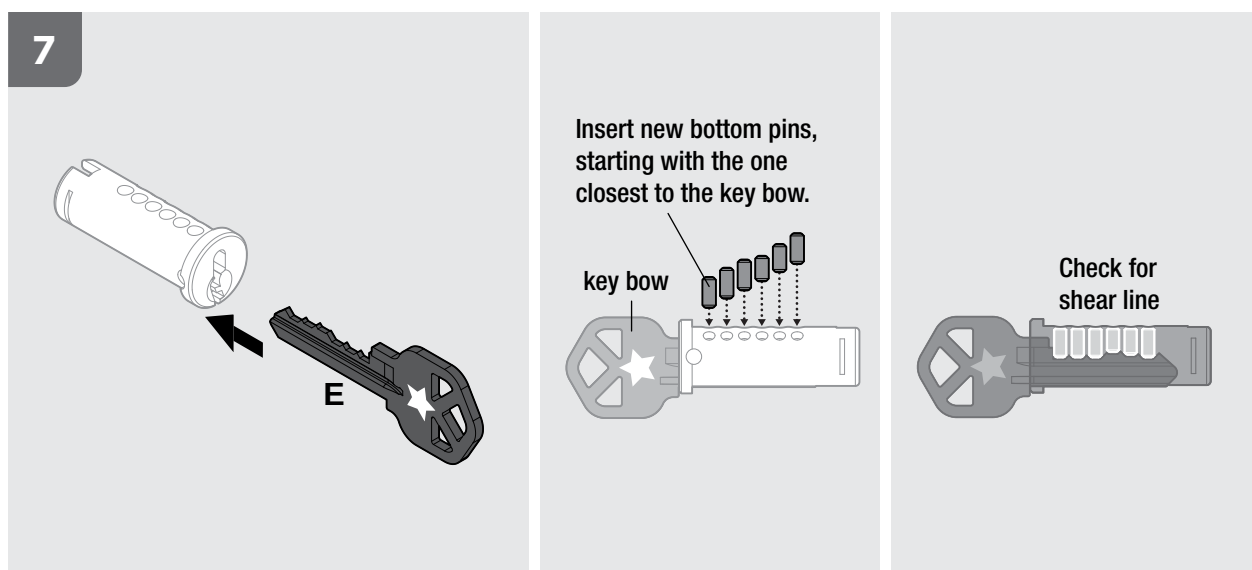


6

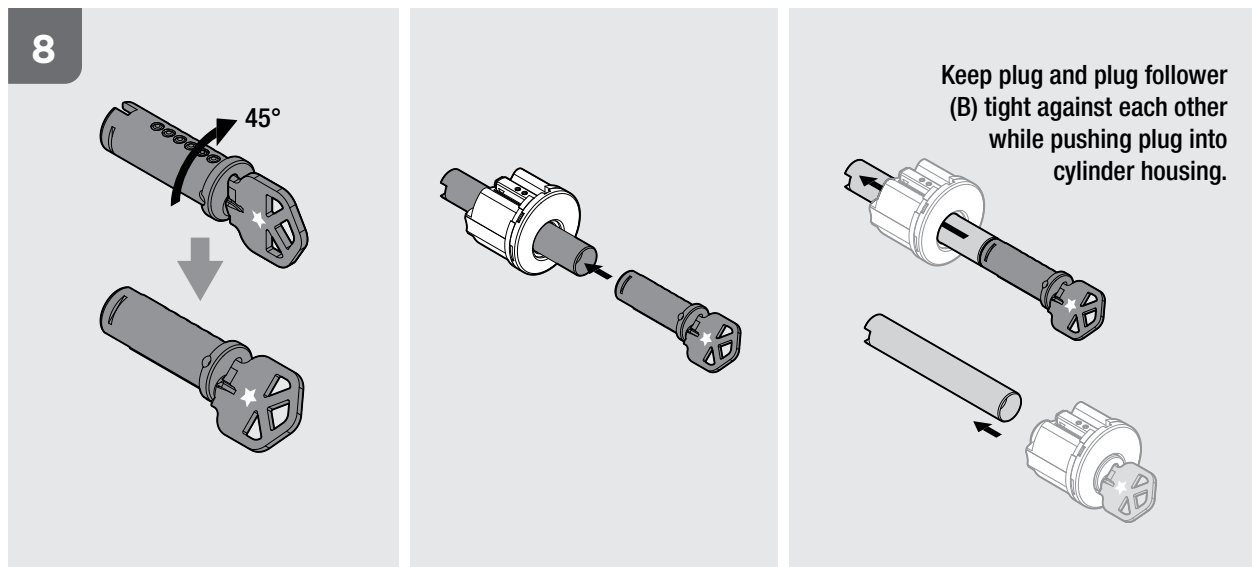
Measure new key and write down key cut combination.



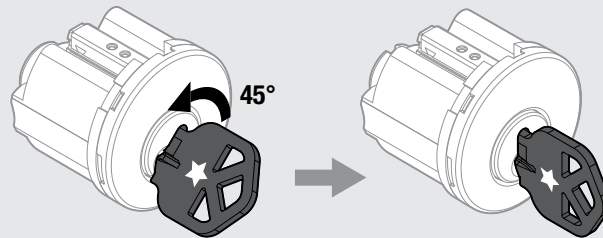
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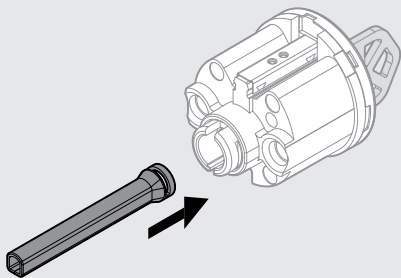
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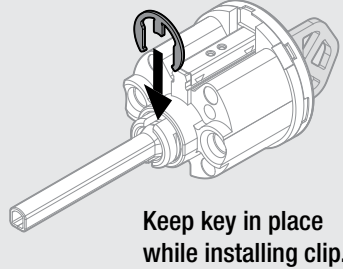
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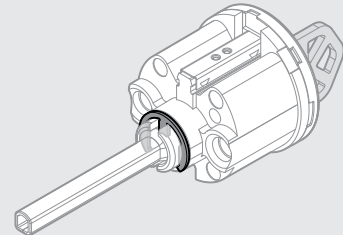
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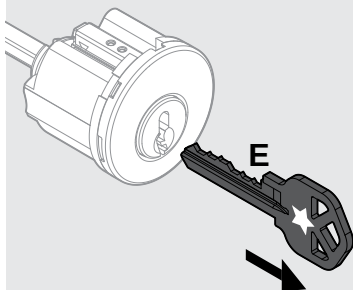
Install new clip.
Do not use old clip.



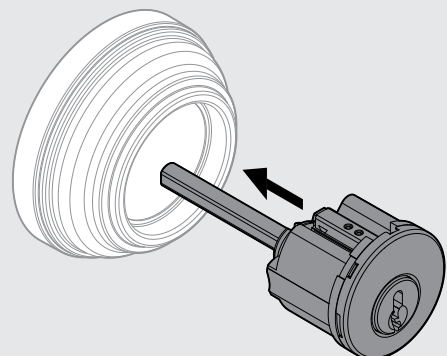
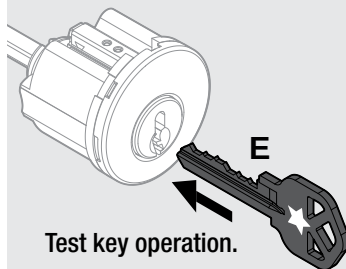
Keep key in place
while installing clip.



11



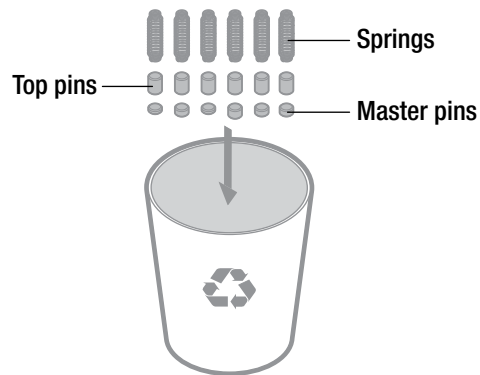
Test key operation.



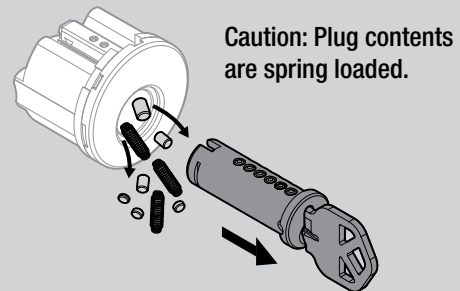
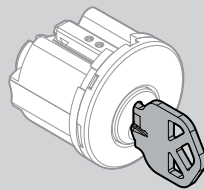
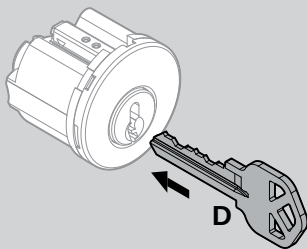
DEADBOLT (980/985)

Top Pin and Spring Removal

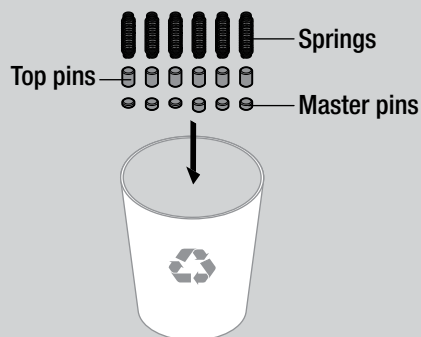
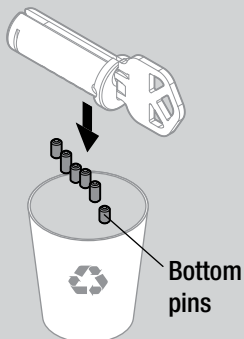
If a lock is changing from a two level master keyed cylinder to a single level keyed cylinder (where only one key cut combination will be able to open the lock), it is recommended that all master pins and top pins are removed and replaced.



1



2

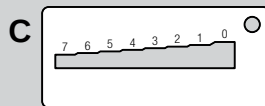
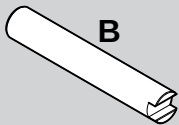
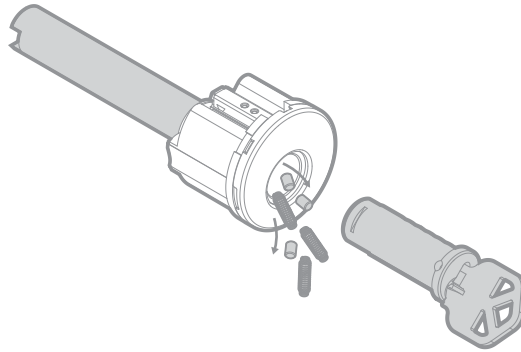


Proceed to Step 2 on page 83 and perform the procedure to rekey the lock and replace the top pins and springs.

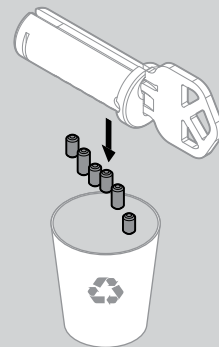
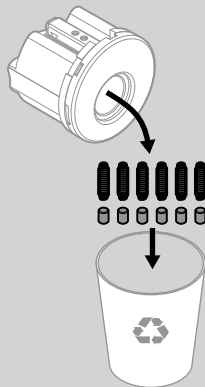
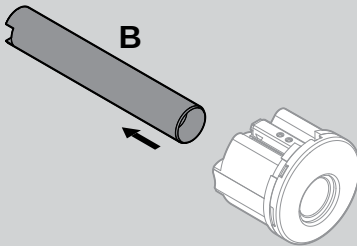
DEADBOLT (980/985)

Top Pin and Spring Replacement

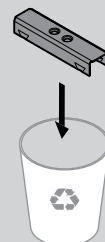
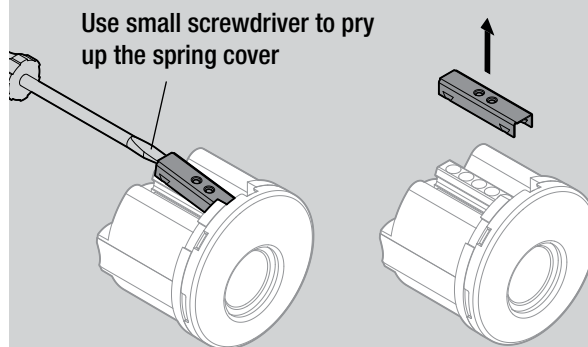
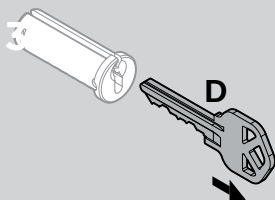
If the top pins and springs fall out while you are removing the plug from the cylinder, perform the procedure below to replace them.



1

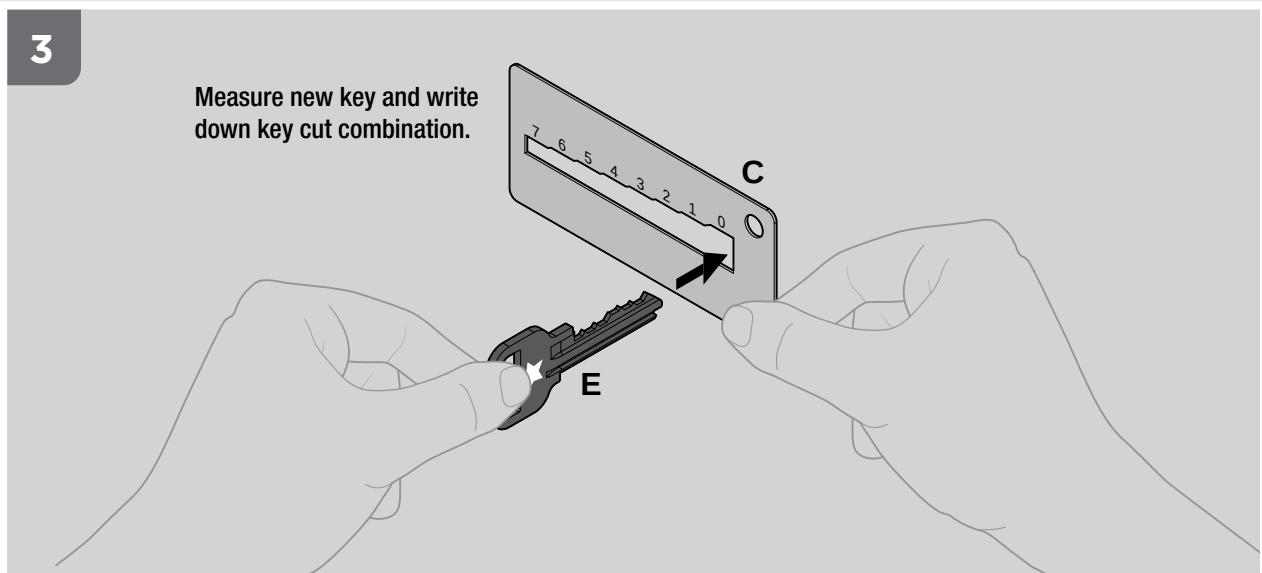


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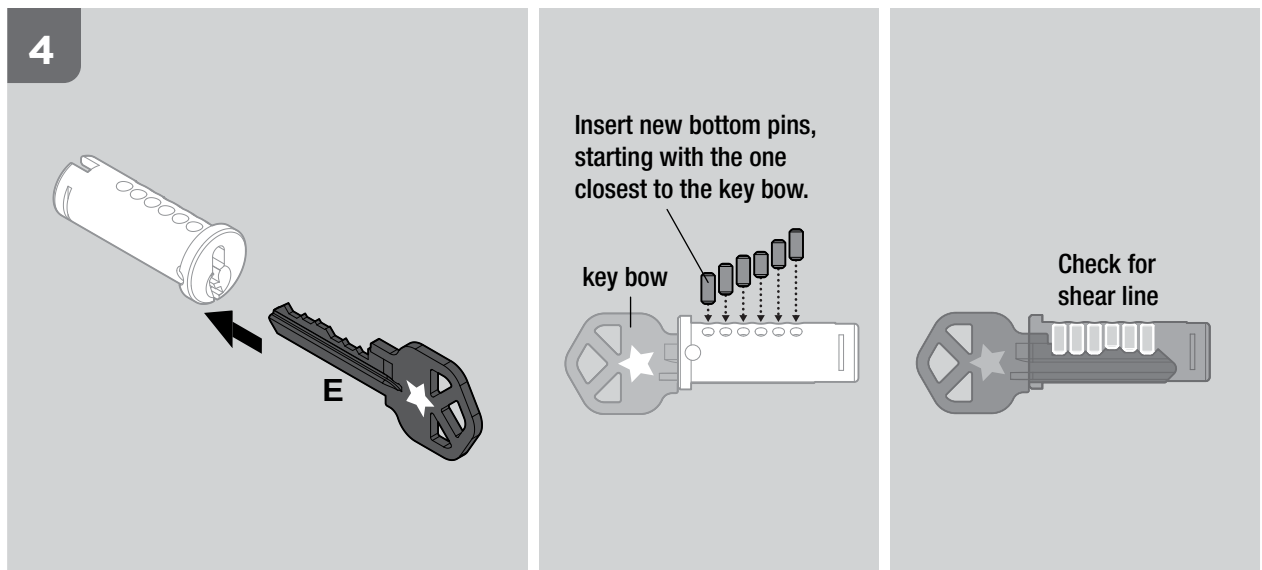


3

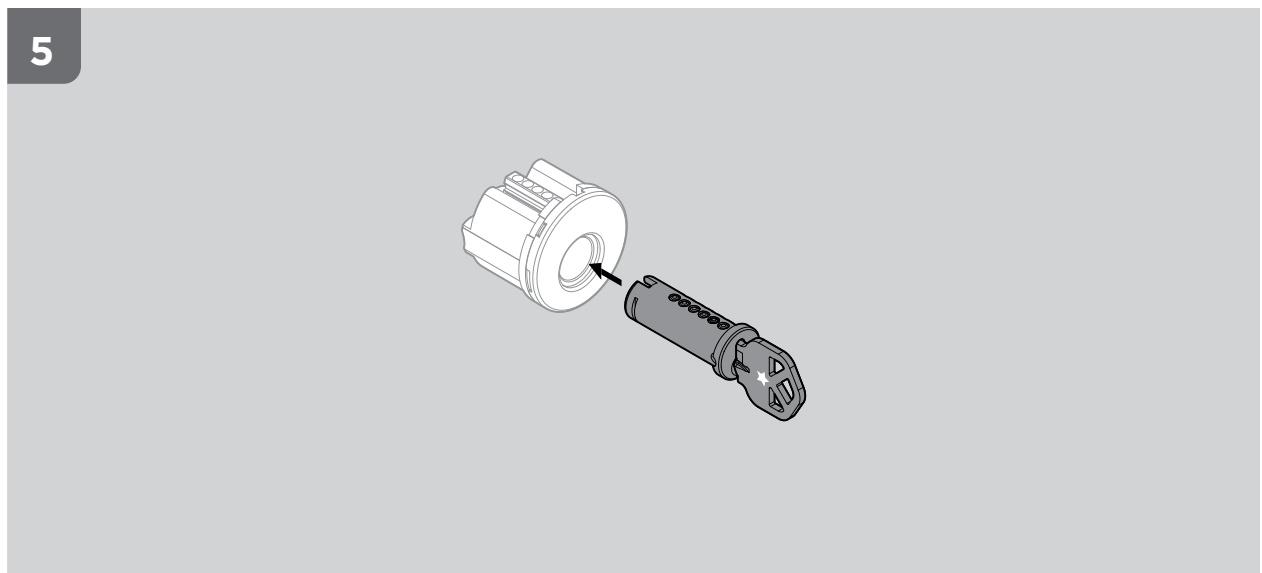
Measure new key and write down key cut combination.



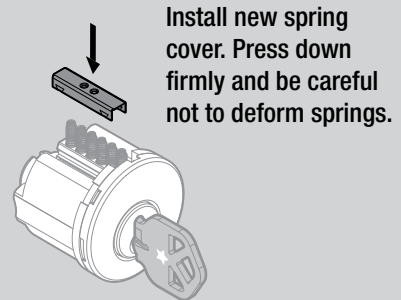
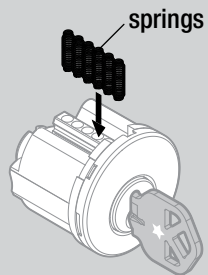
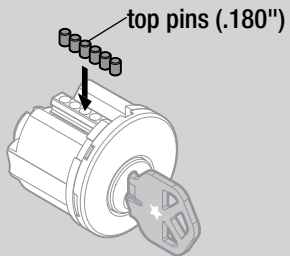
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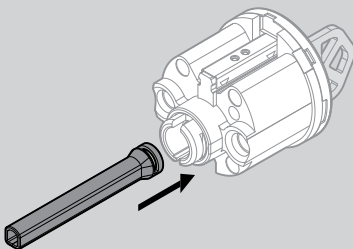
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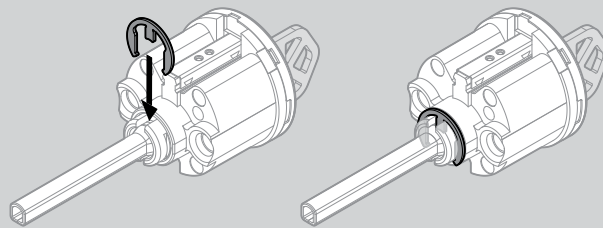
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7

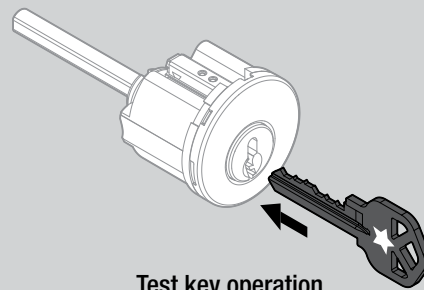
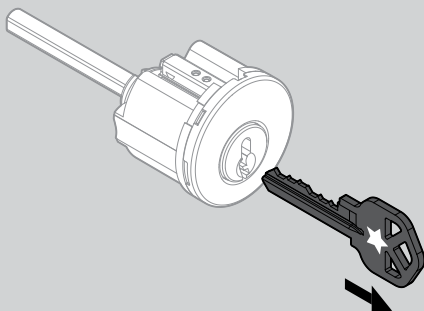


Install new clip.
Do not use old clip.



Keep key in place while installing clip.

8



SmartKey® Locks Overview

SmartKey locks utilize a different rekeying technology than traditional pin and tumbler cylinders. SmartKey locks can be rekeyed quickly without removing them from the door or manually repinning the cylinders.

SmartKey Tool

In order to rekey a SmartKey lock, you'll need the lock's current key, the new key and a SmartKey tool (Figure 20).

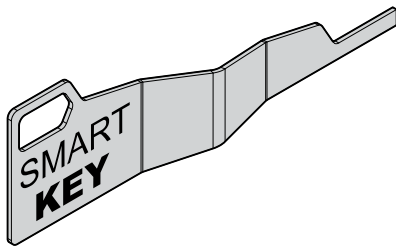


Figure 20. SmartKey Tool

While the current key is in the lock and rotated 90°, the SmartKey tool is inserted into the face of the cylinder, through the SmartKey hole (Figure 21).

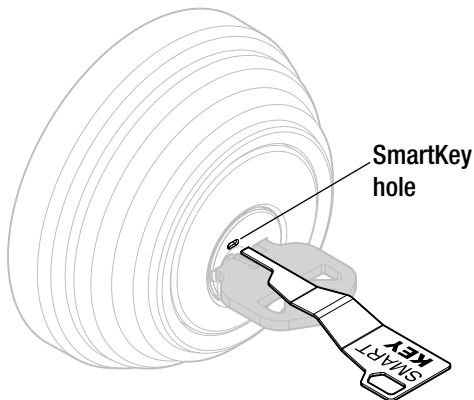


Figure 21. SmartKey Hole

SmartKey Reset Cradle

If a SmartKey cylinder has been programmed incorrectly or the key is lost, a reset cradle can be used to reset the cylinder. See Figure 22.

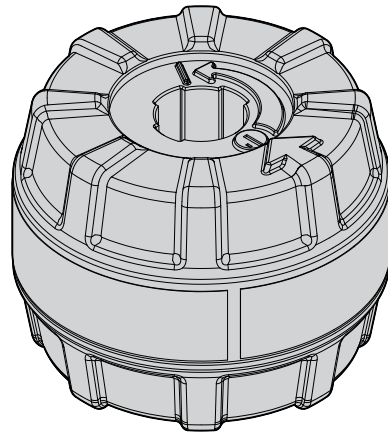


Figure 22. Reset Cradle

The cylinder is inserted into the reset cradle, and the cradle twists to reset the cylinder. Cylinder removal instructions for each SmartKey product can be found later on in this manual.

SmartKey Stationary Reset Tool

An alternative to using the SmartKey reset cradle is the SmartKey stationary reset tool. This can be used on any SmartKey cylinder, and it is ideal for mortise cylinders or light commercial cylinders that cannot fit into the reset cradle.

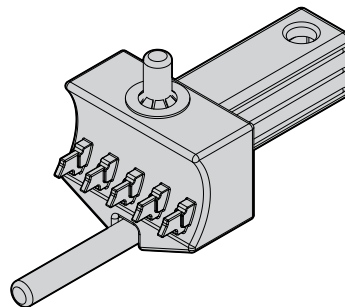


Figure 23. Stationary Reset Tool

Fully Inserting the New Key

During the rekeying procedure, it is vital that the new key is fully inserted into the lock. If the key is not fully inserted, the cylinder will only learn a portion of the key combination. In this case, the cylinder will only be able to turn when the key is inserted to the same depth as it was when it was being rekeyed.

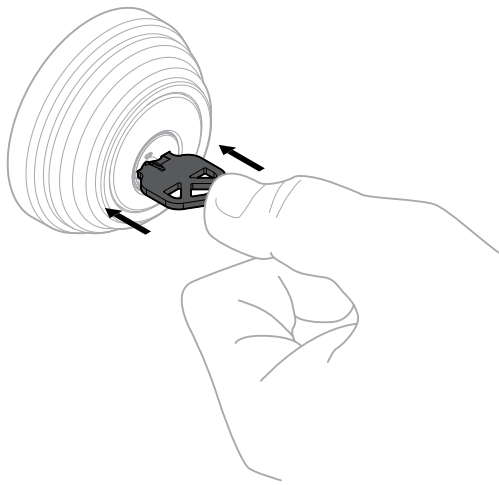


Figure 24. Fully Insert new Key

Using 6-Pin Keys in SmartKey Cylinders

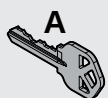
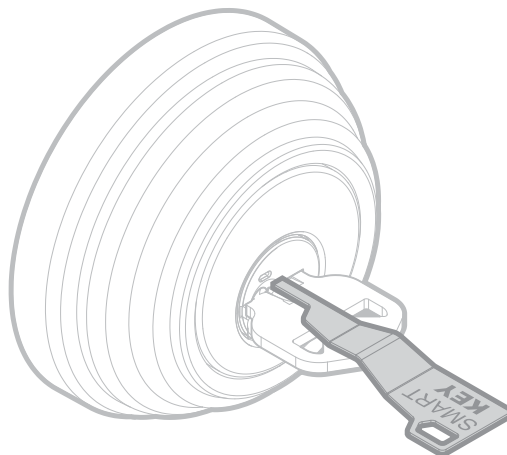
Even though SmartKey cylinders have five pins, 6-pin keys can be used in SmartKey cylinders. During rekeying, the 0-position on the 6-pin key will be unused and the SmartKey cylinder will learn the last five key cuts.

REKEYING

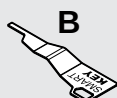
SmartKey Locks

Rekeying instructions are the same for all products with the SmartKey feature. When inserting the new key for the first time, make sure to push it in all the way.

If needed, refer to the Troubleshooting chart on page 91.



current key

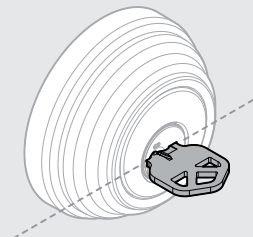
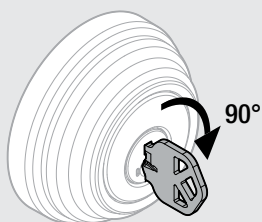
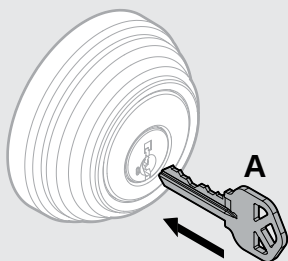


SmartKey tool

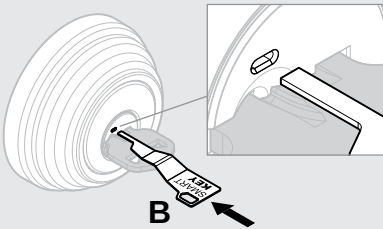


new key

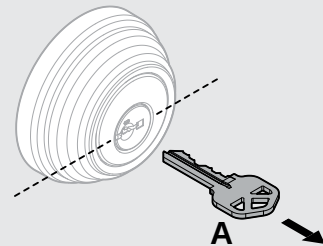
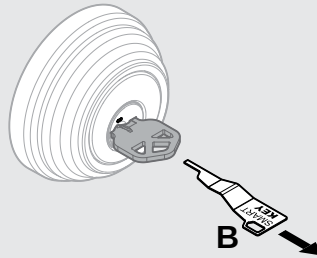
1



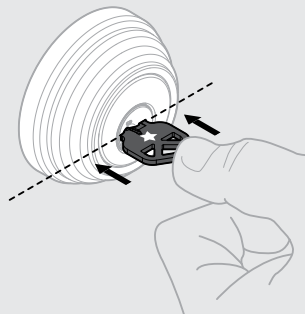
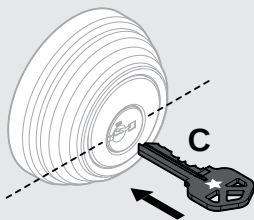
2



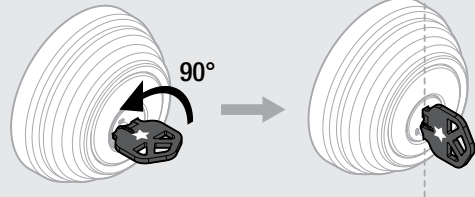
Insert the SmartKey tool (B) fully and firmly into the hole. You may feel the tool click inside the lock.



3



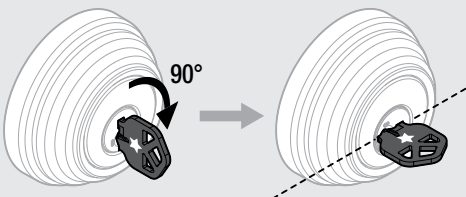
! Make sure new key (C) is FULLY inserted into lock.



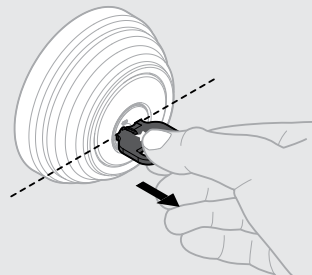
! DO NOT remove key. Perform test procedure below.



Test Procedure



While key is in horizontal position, attempt to pull it out of the lock.



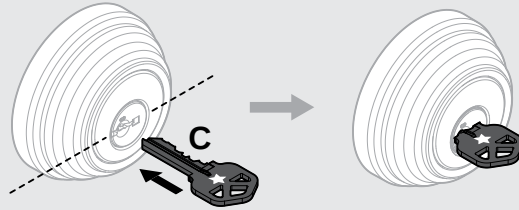
If key does NOT remove, you have successfully rekeyed your lock. You may now remove the key.

If key DOES remove, rekeying was not successful. Follow steps i-iv on page 90.

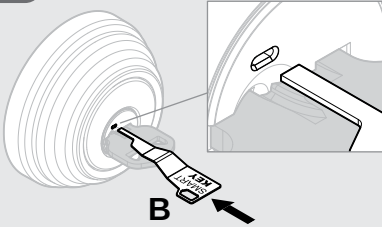
i



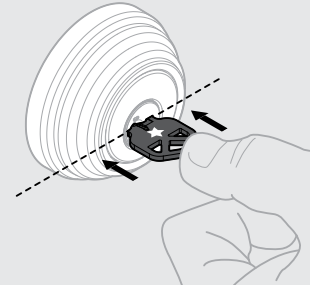
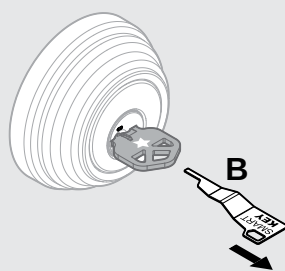
Perform steps i-iv **ONLY** if rekeying was previously unsuccessful.



ii

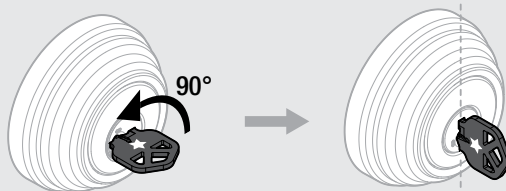


Insert the SmartKey tool (B) fully and firmly into the hole. You may feel the tool click inside the lock.



Make sure new key (C) is **FULLY** inserted into lock.

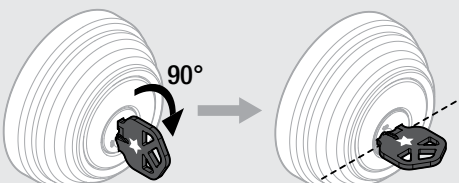
iii



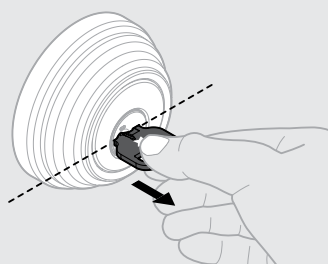
DO NOT remove key.
Perform test procedure below.

iv

Test Procedure



While key is in horizontal position, attempt to pull it out of the lock.

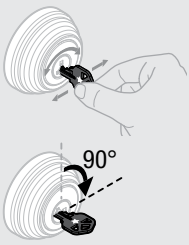


If key does NOT remove,
you have successfully rekeyed your lock. You may now remove the key.

If key DOES remove,
rekeying was not successful.
Repeat steps i-iv.

TROUBLESHOOTING

SmartKey Rekeying

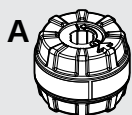
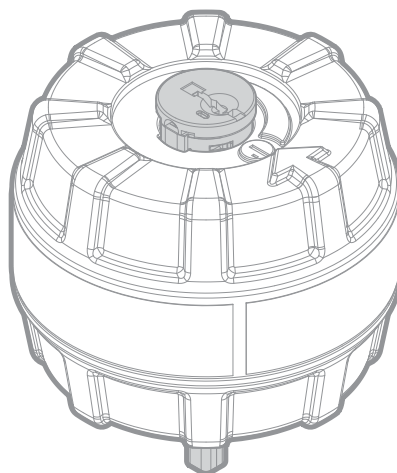
Problem	Cause	Solution
New key will not turn inside cylinder.	New key was not FULLY inserted during rekeying procedure. Cylinder was misprogrammed to operate with key only partially inserted.	1. Slowly pull key out of cylinder while gently jiggling it to find the depth at which the key was programmed. If successful, turn key 90°. 2. Repeat steps ii-iv on page 90. Make sure key is FULLY inserted. 
	The new key used during the rekeying procedure was an inaccurate copy of the original or is an older key with worn out cuts.	Cylinder must be reset with reset cradle. See page 92.
New key continues to be pulled out of the cylinder during test procedure, but it is still able to operate the lock.	New key is worn out with dull cuts, or it is an improperly cut copy.	Rekey the lock with a factory-cut key (a key cut in the manufacturing plant), or with a code cut key (a key cut by using the factory code without the use of a key copier).
A copy of the new key will not operate the lock.	The new key used during the rekeying procedure was an inaccurate copy of the original or is an older key with worn out cuts.	

REKEYING

SmartKey Cylinders with a Reset Cradle

A reset cradle can be used to reset an improperly keyed SmartKey cylinder.

If needed, refer to the Troubleshooting chart on page 95.



reset cradle

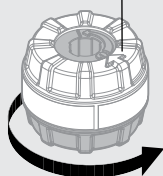
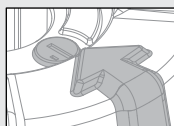


new key



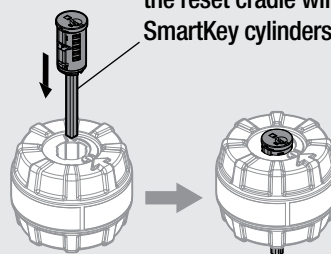
SmartKey tool

1



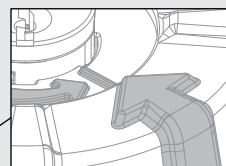
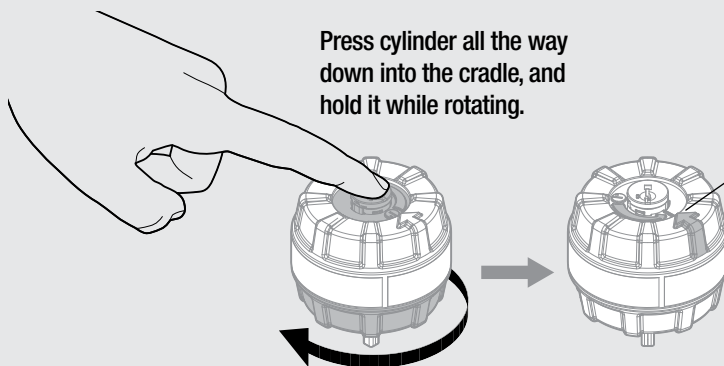
Once you start rotating, you must keep rotating all the way. If it gets stuck at any point, stop rotating, and drop out the cylinder.

Note: Not all SmartKey cylinders have a spindle. A deadbolt cylinder is represented here, but the reset cradle will work for all SmartKey cylinders.

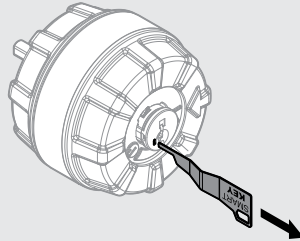
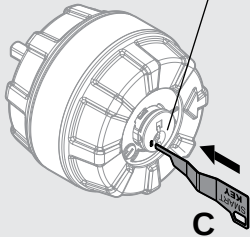
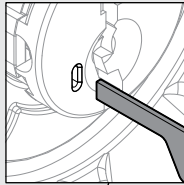


2

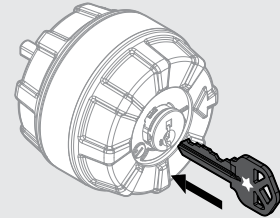
Press cylinder all the way down into the cradle, and hold it while rotating.



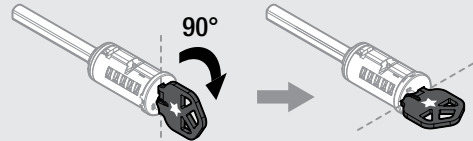
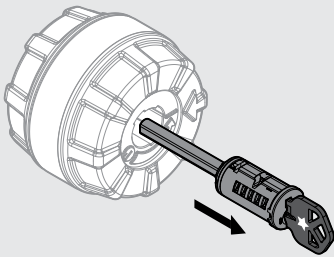
3



! Make sure new key (B) is **FULLY** inserted into lock.



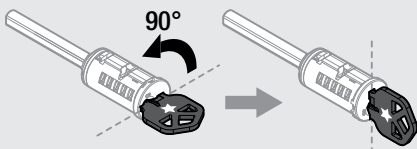
4



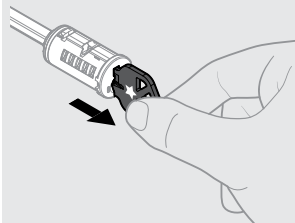
! **DO NOT** remove key. Perform test procedure below.



Test Procedure



Attempt to pull key out of the lock.



If key does NOT remove, you have successfully rekeyed your lock. You may now remove the key.

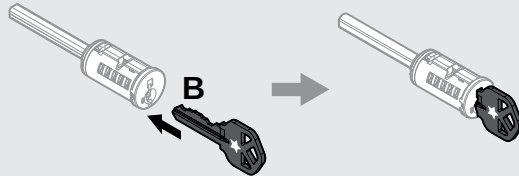


If key DOES remove, rekeying was not successful. Perform steps i-iv on page 94.

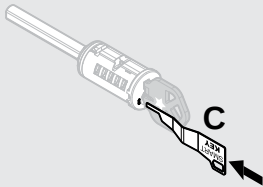
i



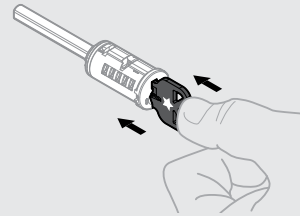
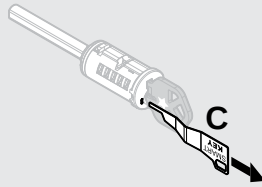
Perform steps i–iv **ONLY** if rekeying was previously unsuccessful.



ii



Insert the SmartKey tool (C) fully and firmly into the hole. You may feel the tool click inside the lock.



Make sure new key (B) is **FULLY** inserted into lock.

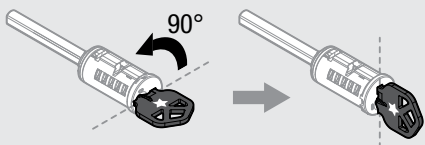
iii



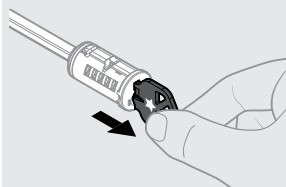
DO NOT remove key. Perform test procedure below.

iv

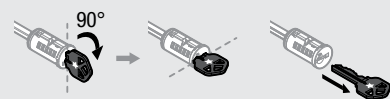
Test Procedure



Attempt to pull key out of the lock.



If key **does NOT** remove, you have successfully rekeyed your lock. You may now remove the key.



If key **DOES** remove, rekeying was not successful. Repeat steps i–iv.

TROUBLESHOOTING

Reset Cradle Rekeying

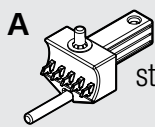
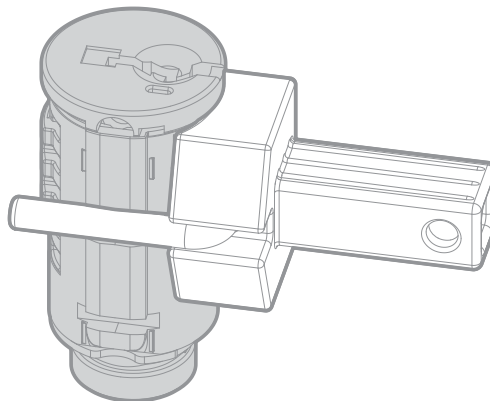
Problem	Cause	Solution
New key will not turn inside cylinder.	New key was not FULLY inserted during rekeying procedure. Cylinder was misprogrammed to operate with key only partially inserted.	Cylinder must be reset again with reset cradle.
	The new key used during the rekeying procedure was an inaccurate copy of the original or is an older key with worn out cuts.	
New key continues to be pulled out of the cylinder during test procedure, but it is still able to operate the lock.	New key is worn out with dull cuts, or it is an improperly cut copy.	Rekey the lock with a factory-cut key (a key cut in the manufacturing plant), or with a code cut key (a key cut by using the factory code without the use of a key copier).
A copy of the new key will not operate the lock.	The new key used during the rekeying procedure was an inaccurate copy of the original or is an older key with worn out cuts.	

REKEYING

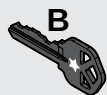
SmartKey Cylinders with a Stationary Reset Tool

A stationary reset tool can be used to reset an improperly keyed SmartKey cylinder.

If needed, refer to the Troubleshooting chart on page 99.



stationary reset tool



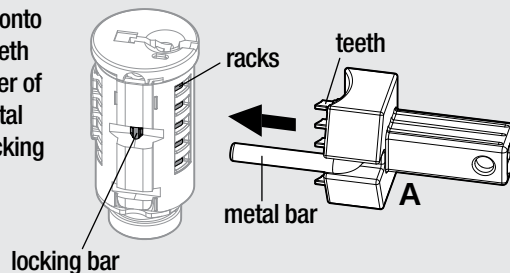
new key



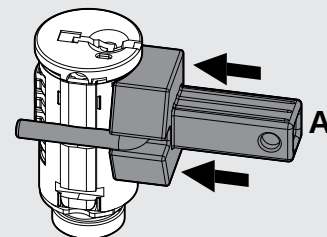
SmartKey tool

1

Position reset tool (A) onto cylinder so that the teeth push against the center of each rack and the metal bar aligns with the locking bar on the cylinder.

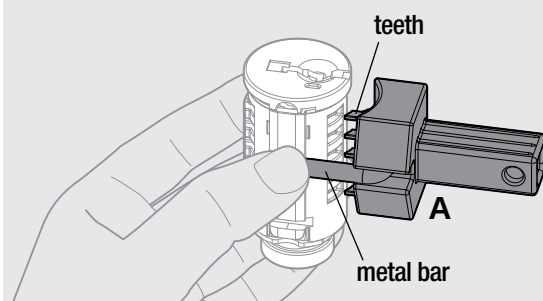


Push "A" against cylinder until you feel it click into place.

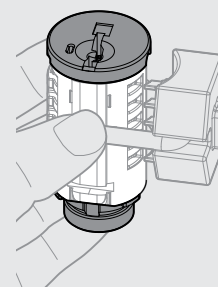
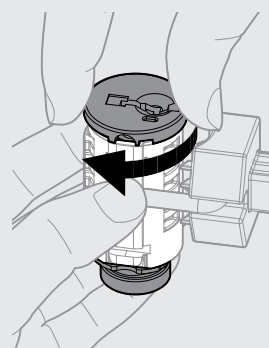


2

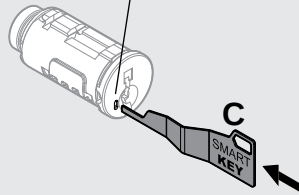
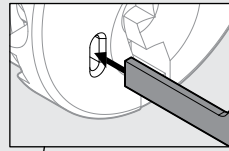
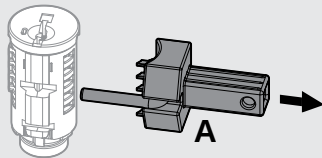
Back "A" off of cylinder so that the teeth are no longer in contact with the racks, but keep pressing the metal bar against the locking bar.



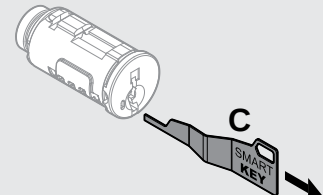
With your free hand, twist the face of the cylinder 90°.



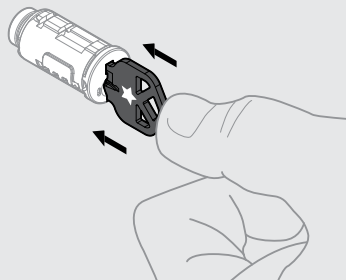
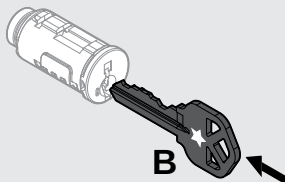
3



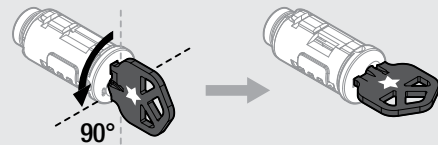
Insert the SmartKey tool (C) fully and firmly into the hole. You may feel the tool click inside the lock.



4



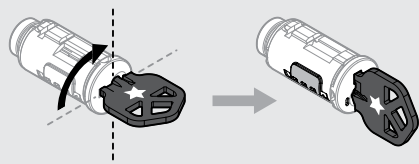
! Make sure new key (B) is FULLY inserted into lock.



! DO NOT remove key. Perform test procedure below.

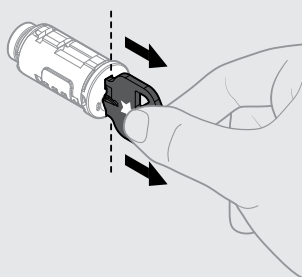


Test Procedure

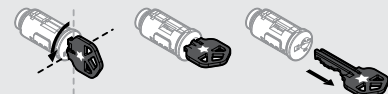


Hold cylinder so it matches the orientation shown here.

While key is in vertical position, attempt to pull it out of the lock.



If key does NOT remove, you have successfully rekeyed your lock. You may now remove the key.

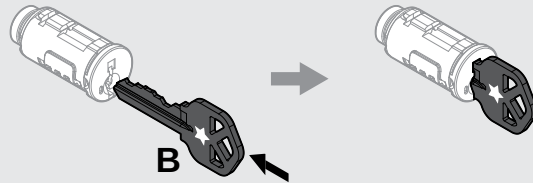


If key DOES remove, rekeying was not successful. Perform steps i-iv on page 98.

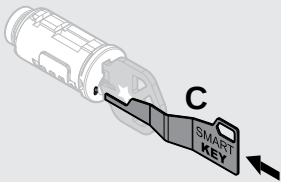
i



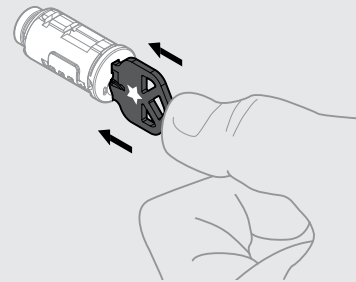
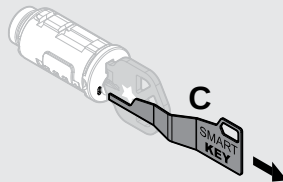
Perform steps i–iv **ONLY** if rekeying was previously unsuccessful.



ii

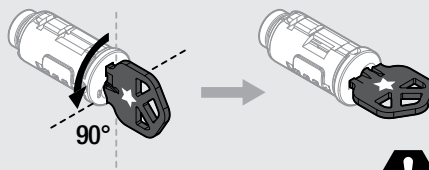


Insert the SmartKey tool (C) fully and firmly into the hole. You may feel the tool click inside the lock.



Make sure new key (B) is **FULLY** inserted into lock.

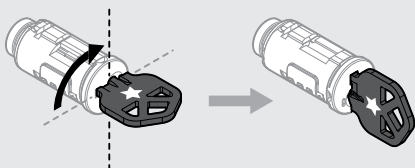
iii



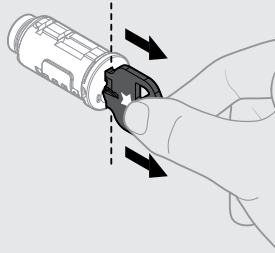
DO NOT remove key. Perform test procedure below.

iv

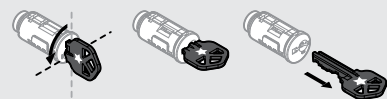
Test Procedure



While key is in vertical position, attempt to pull it out of the lock.



If key **does NOT** remove, you have successfully rekeyed your lock. You may now remove the key.



If key **DOES** remove, rekeying was not successful. Repeat steps i–iv.

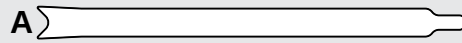
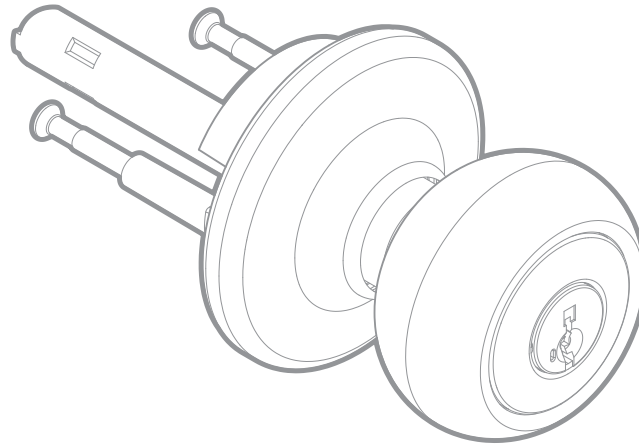
TROUBLESHOOTING

Stationary Reset Tool Rekeying

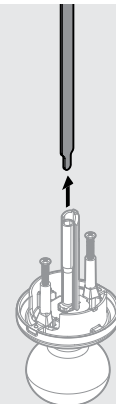
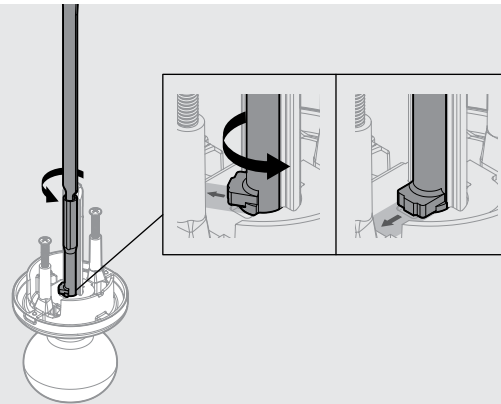
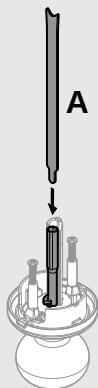
Problem	Cause	Solution
New key will not turn inside cylinder.	New key was not FULLY inserted during rekeying procedure. Cylinder was misprogrammed to operate with key only partially inserted.	Cylinder must be reset again with reset tool.
	The new key used during the rekeying procedure was an inaccurate copy of the original or is an older key with worn out cuts.	
New key continues to be pulled out of the cylinder during test procedure, but it is still able to operate the lock.	New key is worn out with dull cuts, or it is an improperly cut copy.	Rekey the lock with a factory-cut key (a key cut in the manufacturing plant), or with a code cut key (a key cut by using the factory code without the use of a key copier).
A copy of the new key will not operate the lock.	The new key used during the rekeying procedure was an inaccurate copy of the original or is an older key with worn out cuts.	

STANDARD KNOB

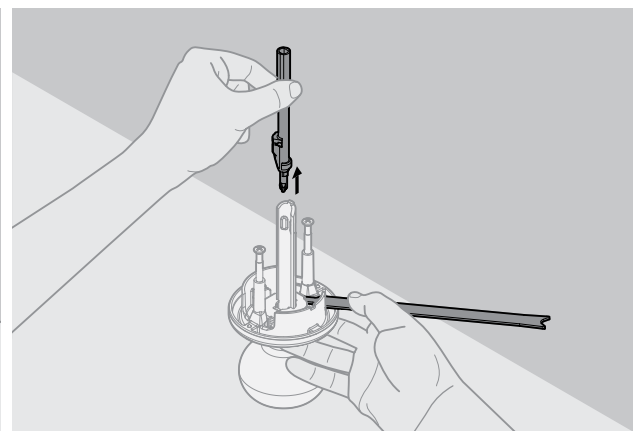
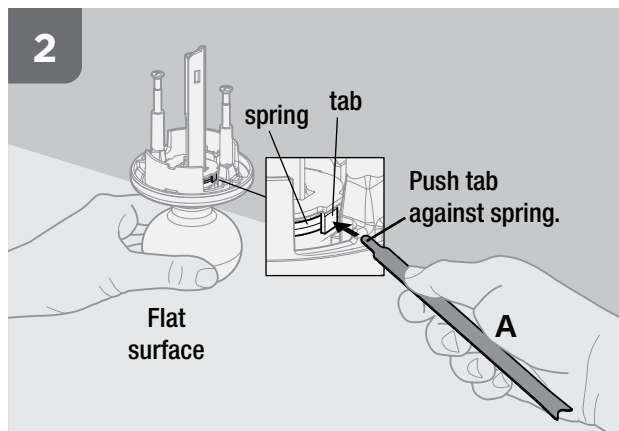
Cylinder Removal



1

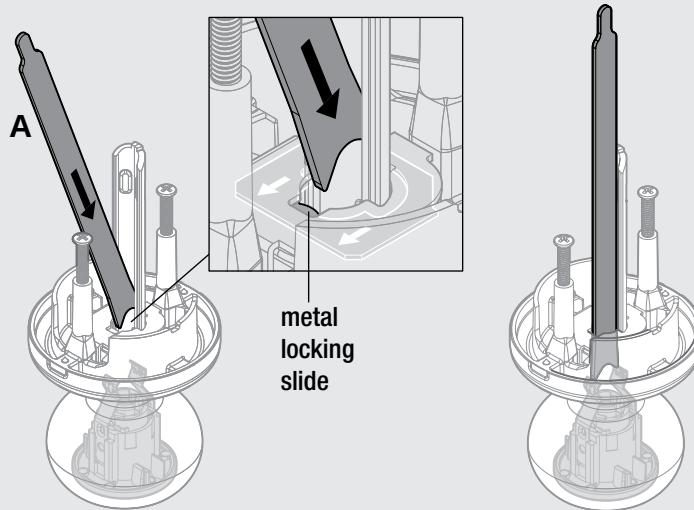


2



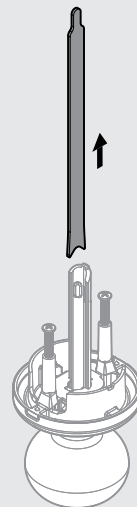
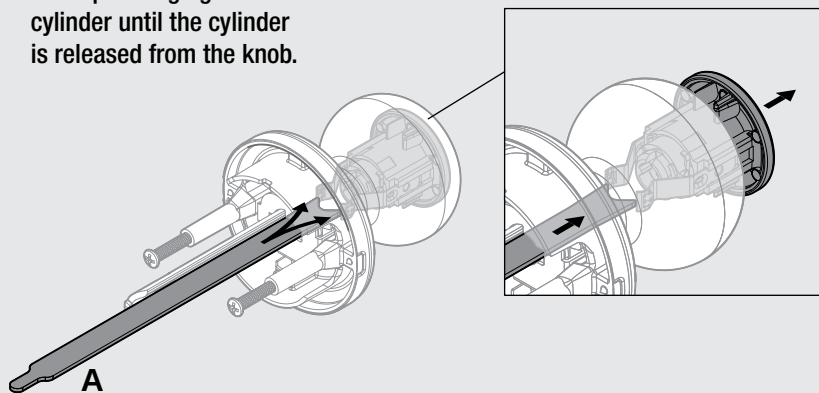
3

Insert the cylinder removing tool (A) into the bottom of the knob chassis at an angle, and push the metal locking slide to the side. Once "A" is past the metal locking slide, push it in until it makes contact with the cylinder.

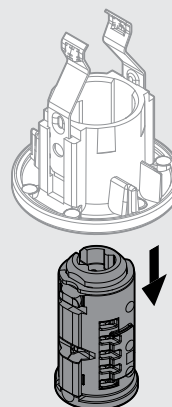
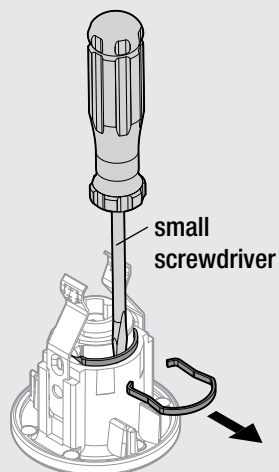


4

Wiggle "A" back and forth while pressing against the cylinder until the cylinder is released from the knob.



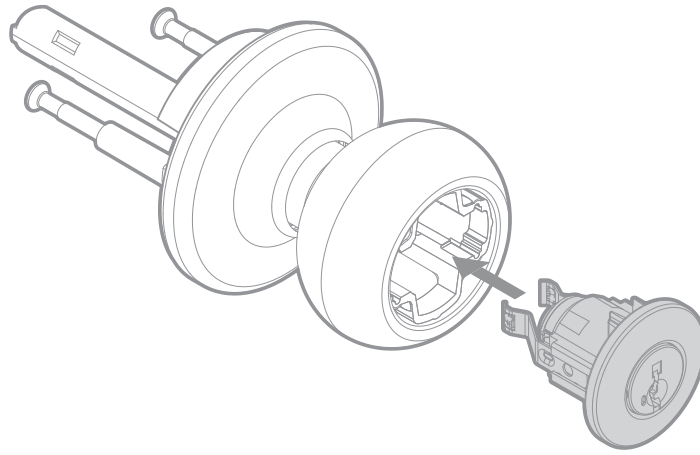
5

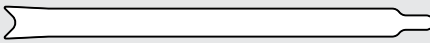


For reassembly instructions, see page 102.

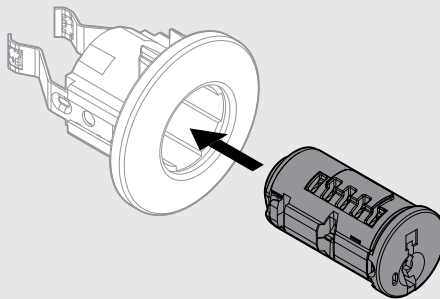
STANDARD KNOB

Cylinder Replacement

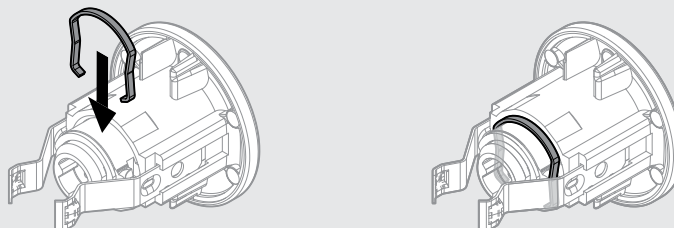


A 

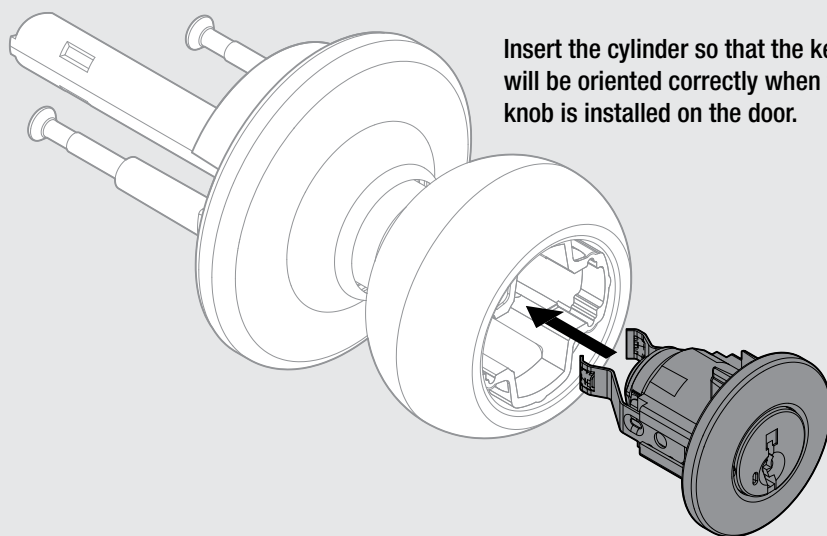
1



2



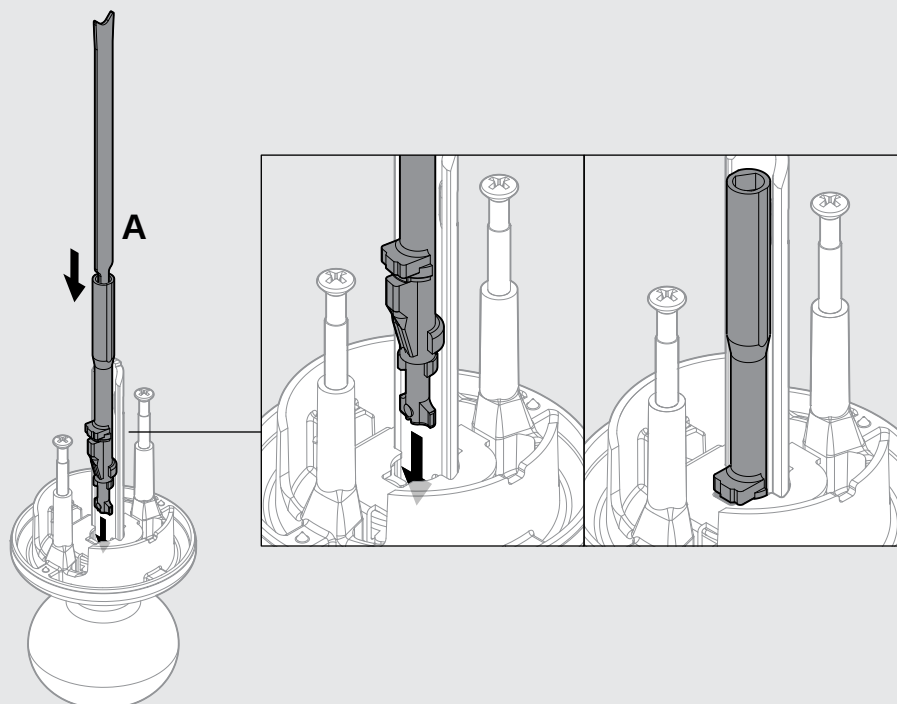
3



Insert the cylinder so that the keyway will be oriented correctly when the knob is installed on the door.

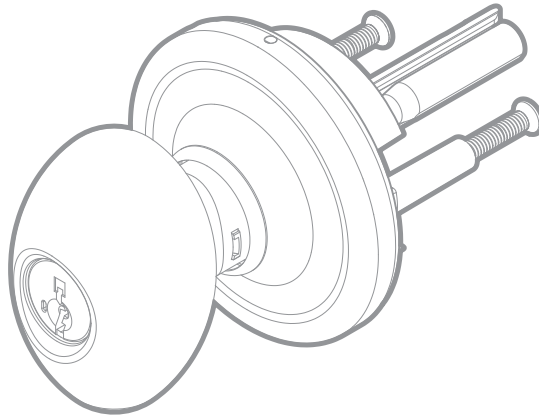
Press in until you feel the cylinder click inside the knob.

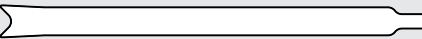
4



LAUREL KNOB

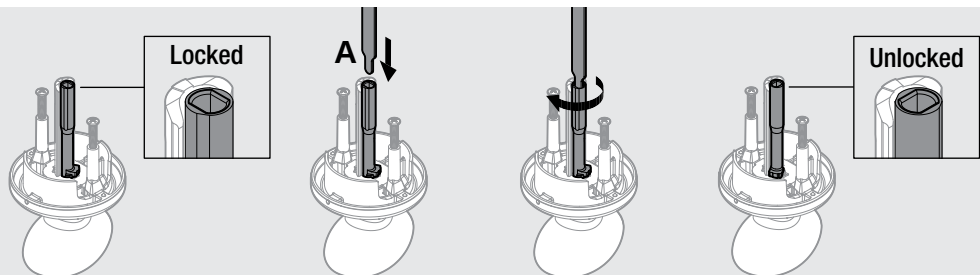
Cylinder Removal



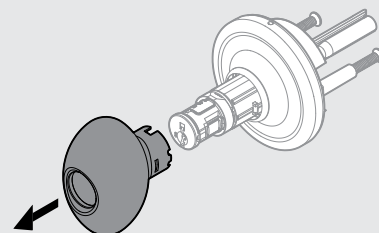
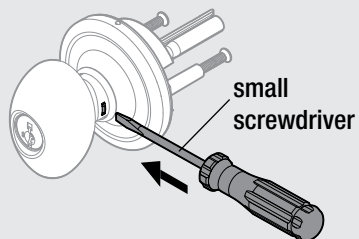
A 

1

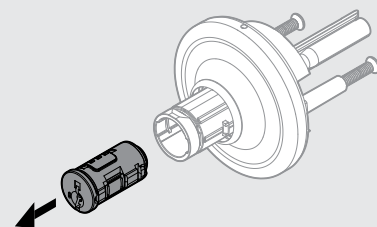
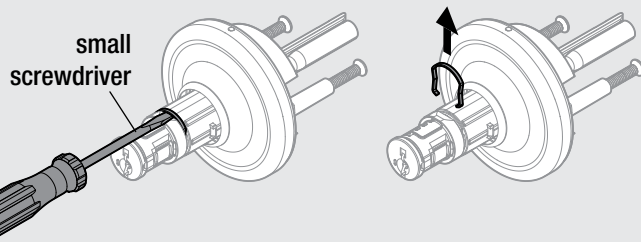
If knob is locked,
rotate spindle to the
unlocked position.



2

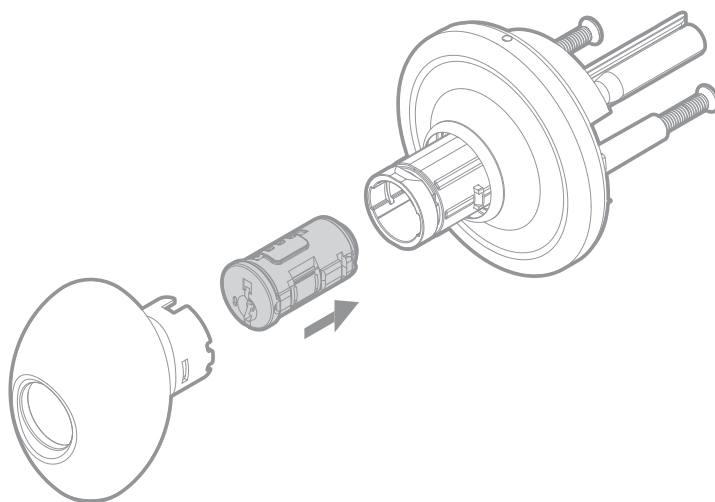


3

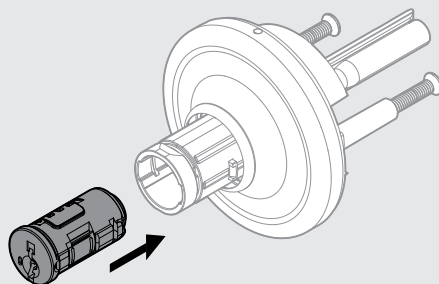


LAUREL KNOB

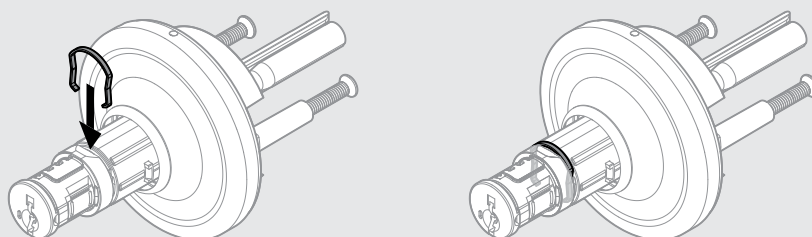
Cylinder Replacement



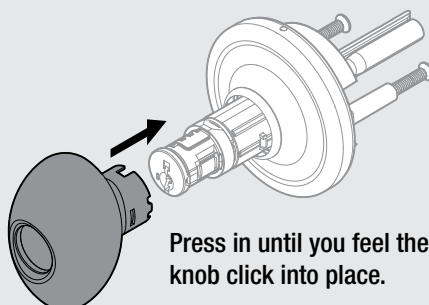
1



2



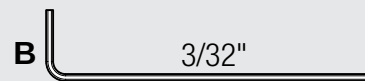
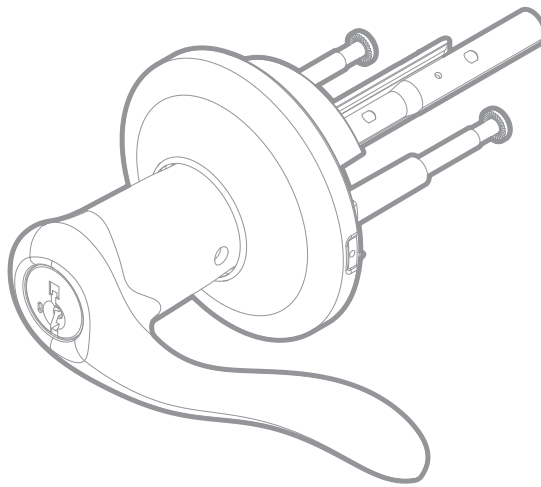
3



Press in until you feel the knob click into place.

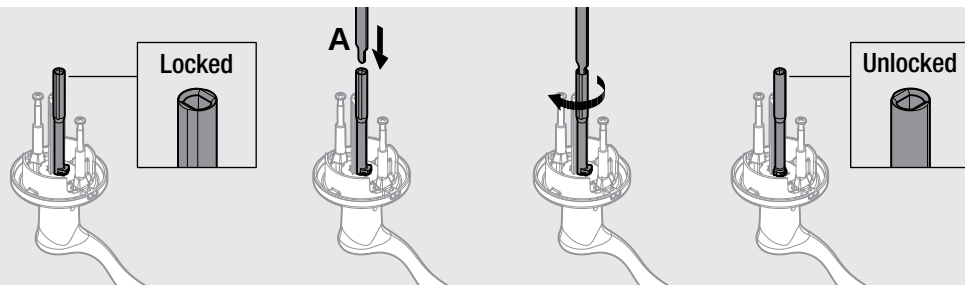
STANDARD LEVER

Cylinder Removal

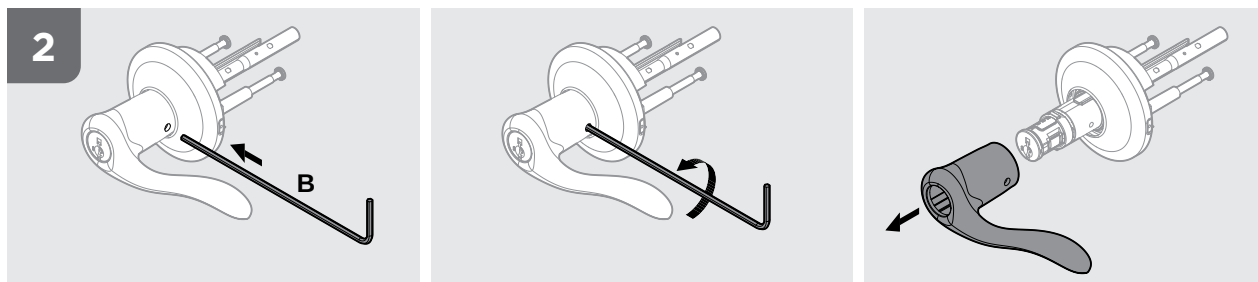


1

If lever is locked, rotate spindle to the unlocked position.

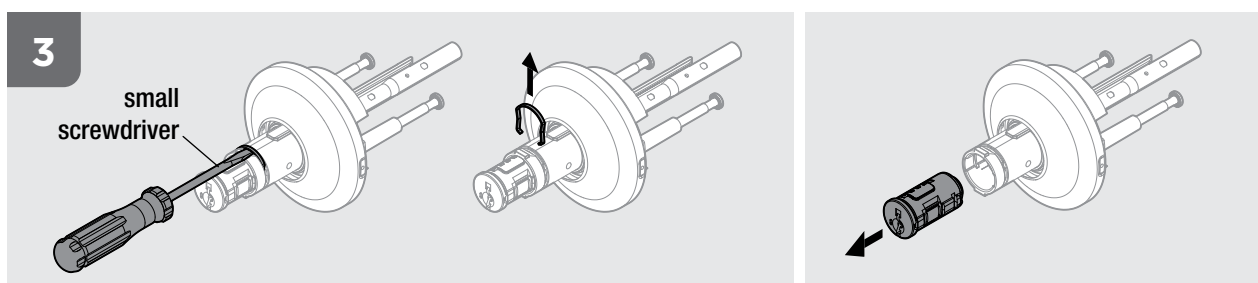


2



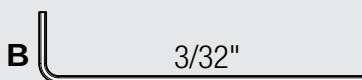
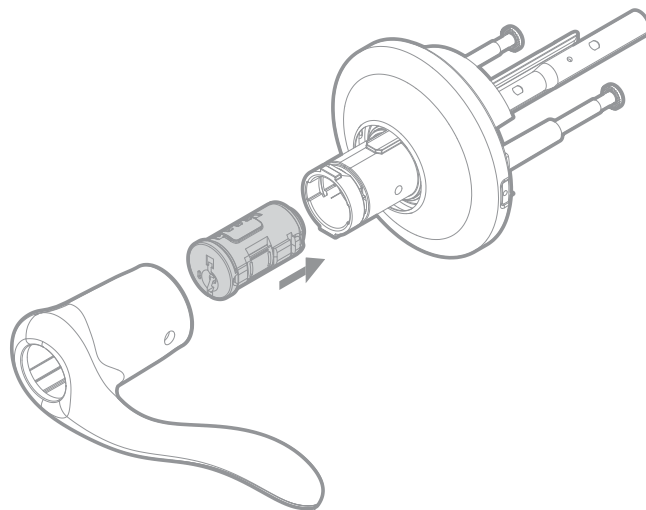
3

small
screwdriver

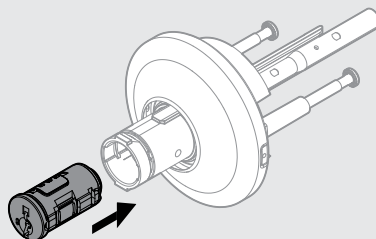


STANDARD LEVER

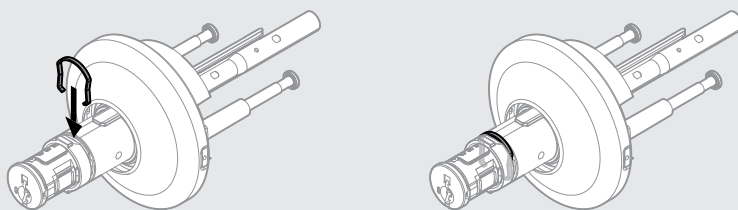
Cylinder Replacement



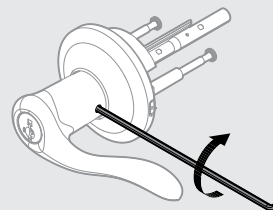
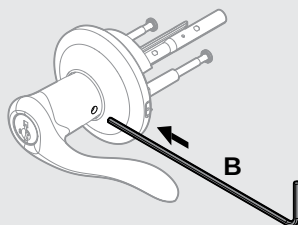
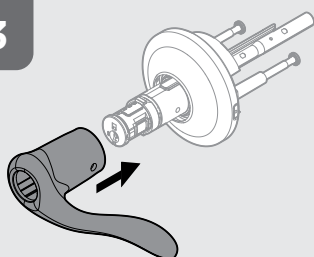
1



2



3

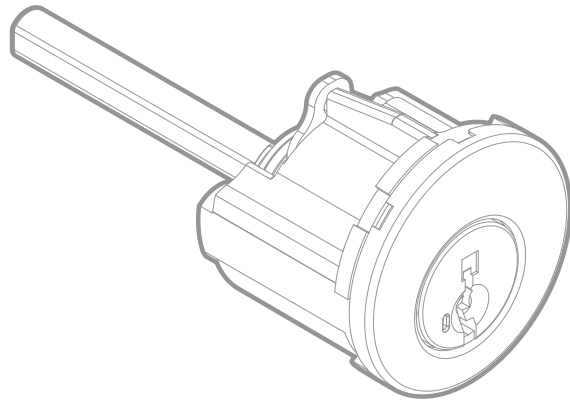


DEADBOLT

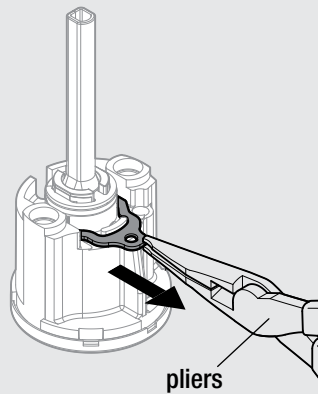
Cylinder Removal

Perform the procedure
below for the following
SmartKey deadbolts:

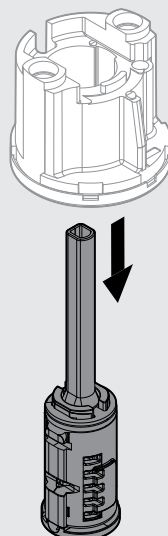
780, 785, 980, 985, 993,
SmartCode Deadbolt (909/910)



1



2



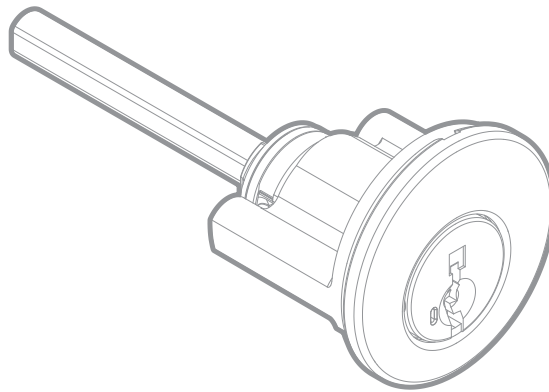
Reassemble in
reverse order.

DEADBOLT

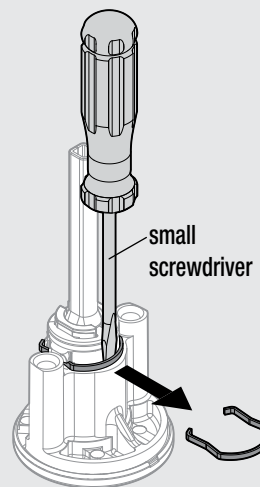
Cylinder Removal

Perform the procedure below for the following SmartKey deadbolts:

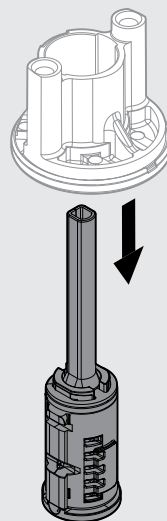
660, 665



1



2



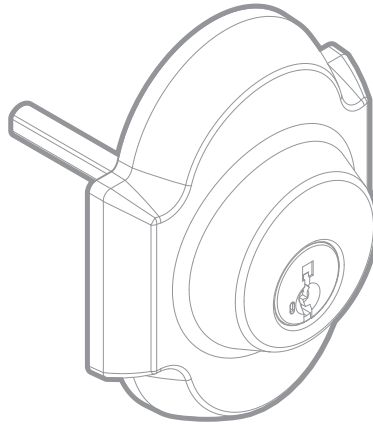
Reassemble in reverse order.

DEADBOLT

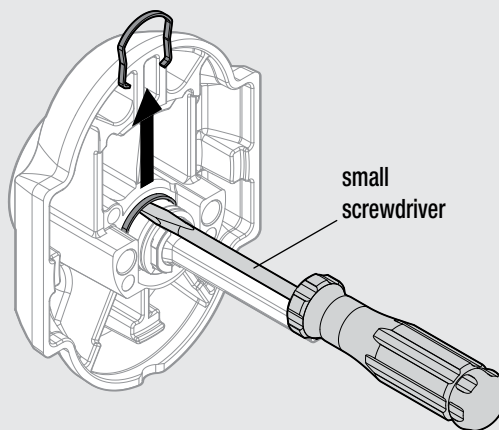
Cylinder Removal

Perform the procedure
below for the following
SmartKey deadbolts:

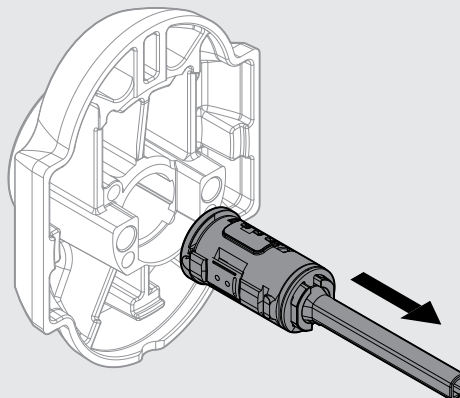
Austin Deadbolt (800/980)



1



2



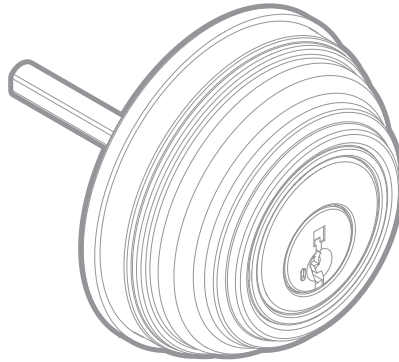
Reassemble in
reverse order.

DEADBOLT

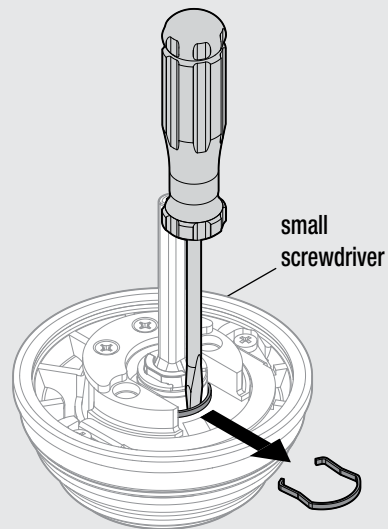
Cylinder Removal

Perform the procedure below for the following SmartKey deadbolts:

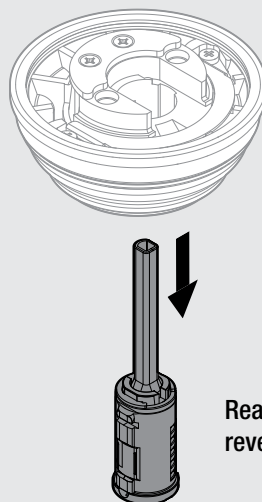
Kevo Deadbolt (925)



1



2

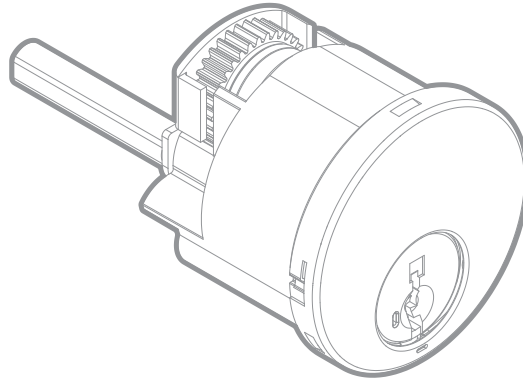


Reassemble in reverse order.

KEY CONTROL™ DEADBOLT

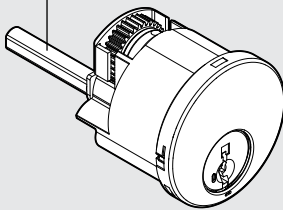
Cylinder Removal

A key control deadbolt, the SmartKey alternative to master keying, has two cylinders. The master cylinder sits just above the tenant cylinder and is hidden by the faceplate. Perform the procedure below if the cylinders must be removed for use in the reset cradle.



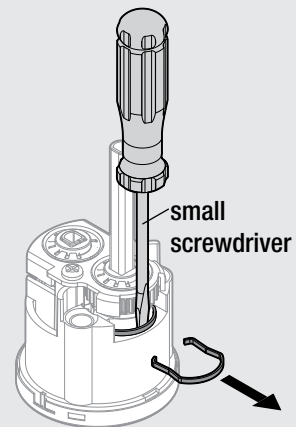
1

tenant
cylinder
torque blade

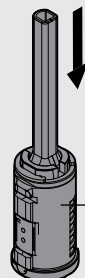
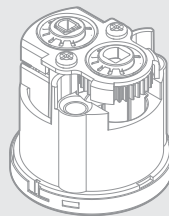


Make sure the faceplate is rotated to expose the lower tenant cylinder.

Note: The tenant cylinder has a longer torque blade than the master cylinder.

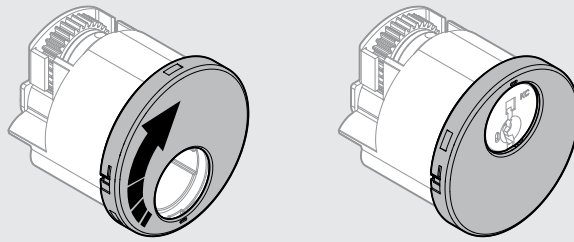


2



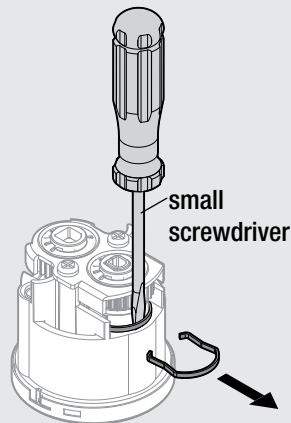
tenant
cylinder

3



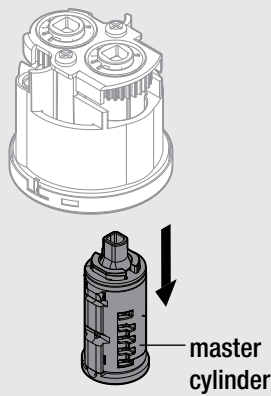
Rotate faceplate
to expose the
master cylinder.

4



small
screwdriver

5



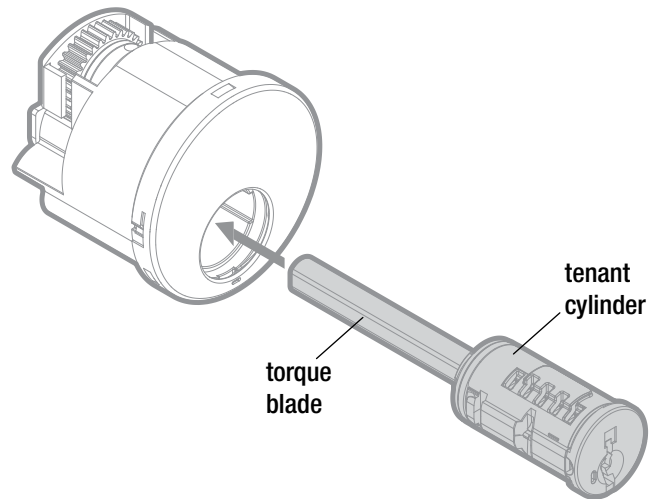
master
cylinder

KEY CONTROL DEADBOLT

Cylinder Replacement

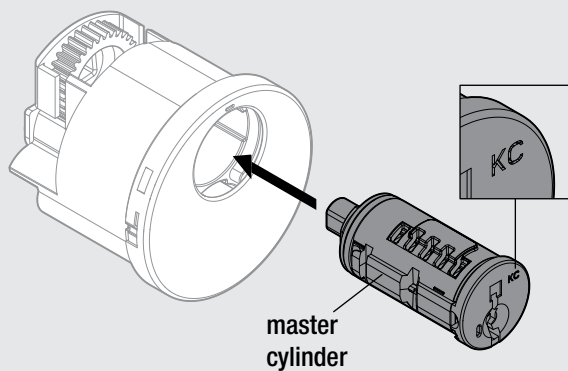
When reassembling a key control deadbolt, be mindful of the two different cylinders. The tenant cylinder has a longer torque blade than the master cylinder, and it will sit below the master cylinder.

Note: the illustration in step 1 shows the face plate already rotated to the master cylinder access position. The procedure is a continuation of the procedure on page 112.

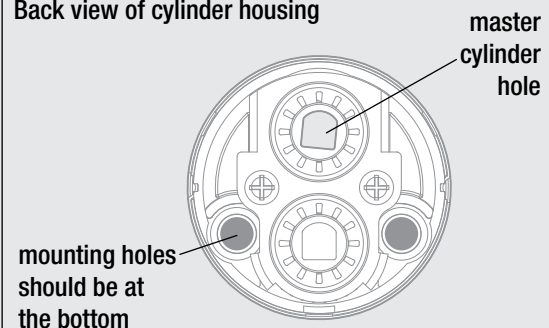


1

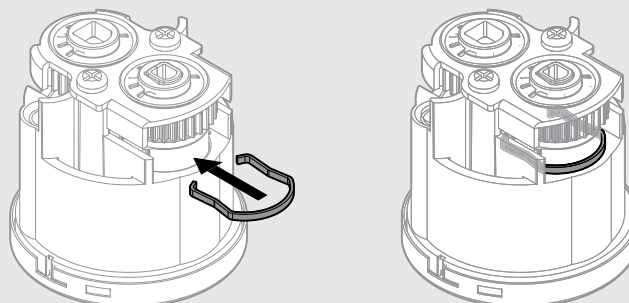
Make sure master cylinder is installing in the correct hole.



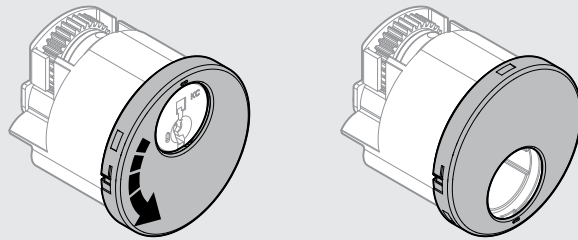
Back view of cylinder housing



2

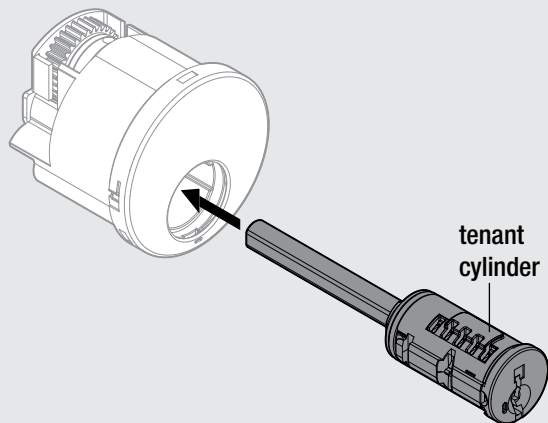


3

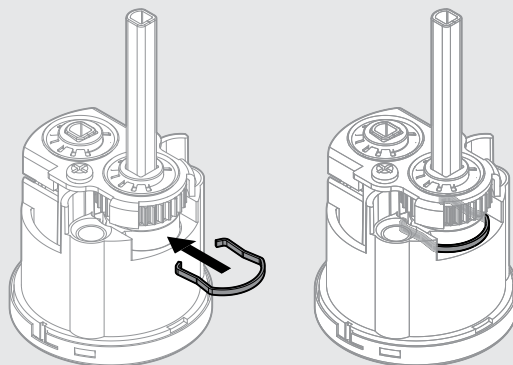


Rotate faceplate to
expose the tenant
cylinder hole.

4

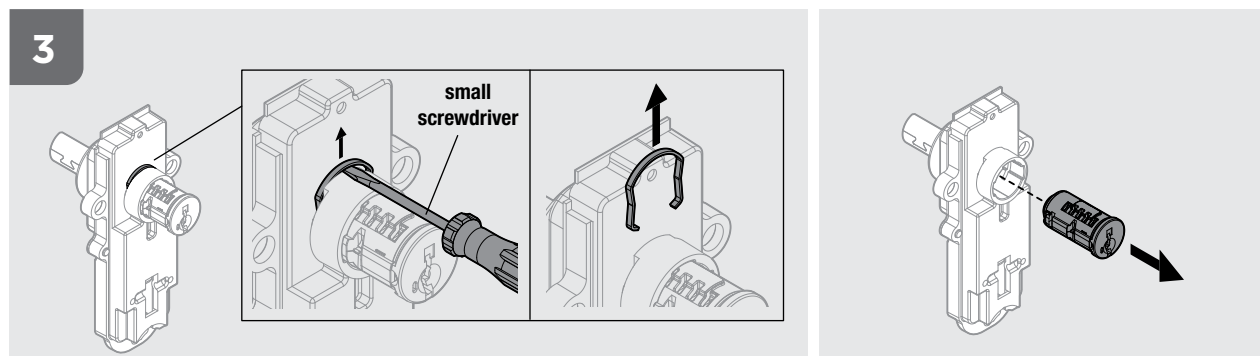
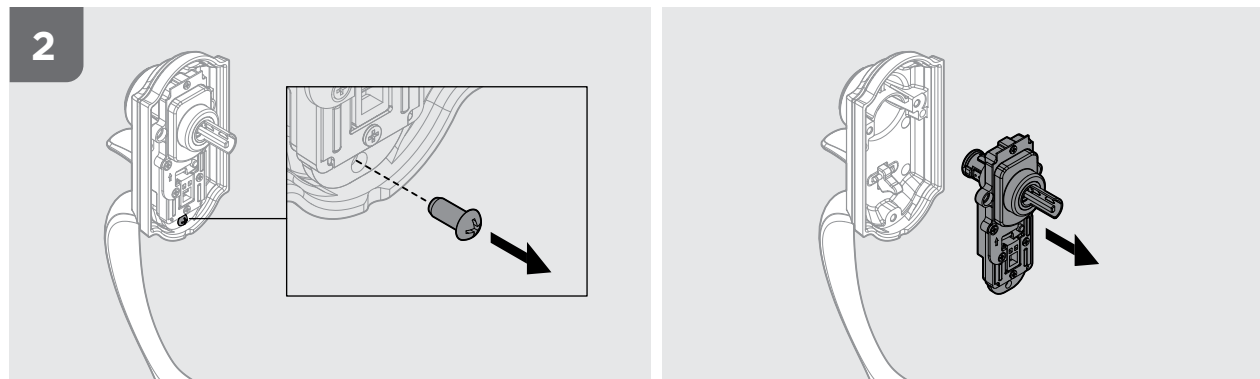
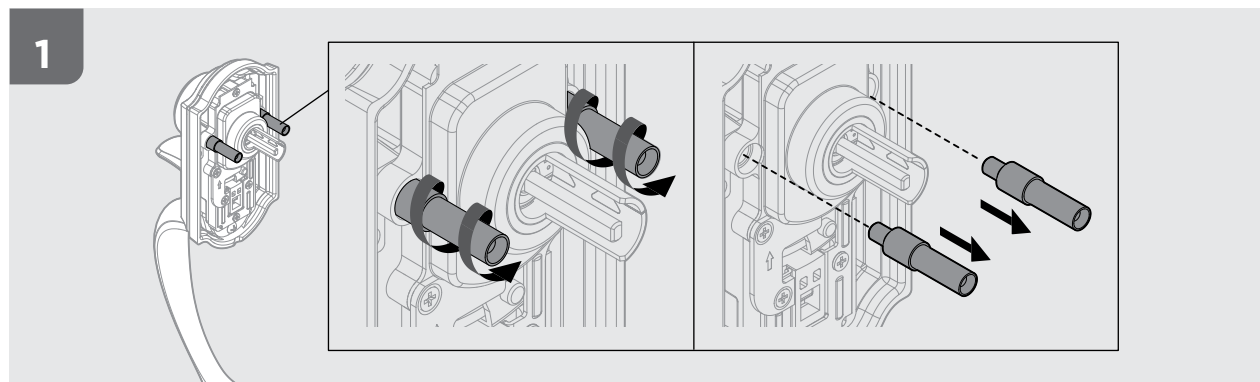
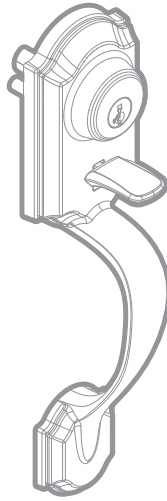


5



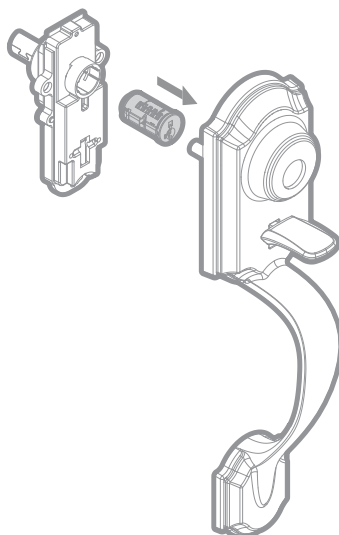
MONTARA HANDLESET

Cylinder Removal

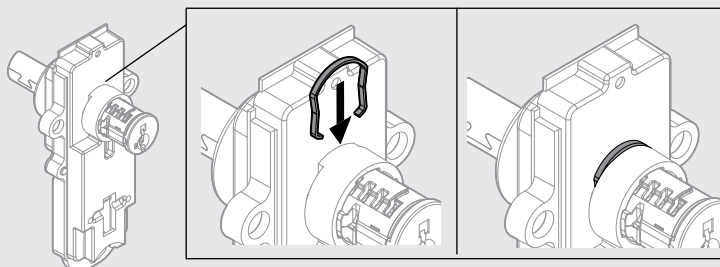
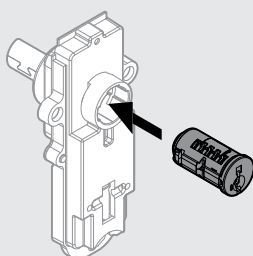


MONTARA HANDLESET

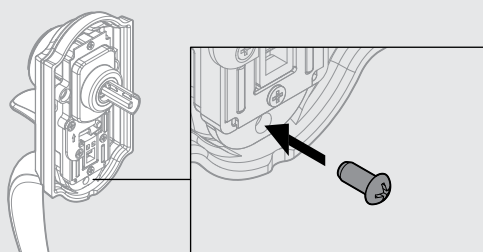
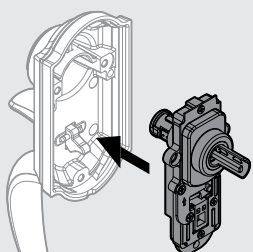
Cylinder Replacement



1



2



3

