Master Keying Table of Contents

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.
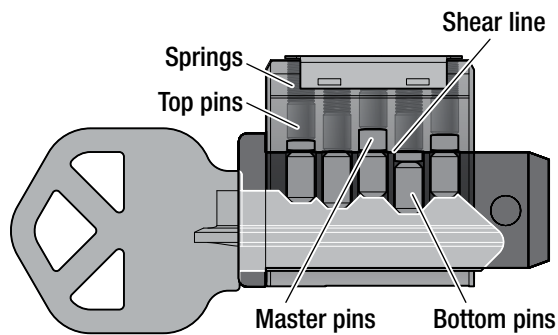

Figure 1. Master keyed Lock

The first step in master keying is to gauge both keys and write down both combinations. See the example in Figure 2.

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

Figure 2. 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 3. 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 4. 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 5.
Note: A #7 cut is reserved only for builders' keys.

Deep master key
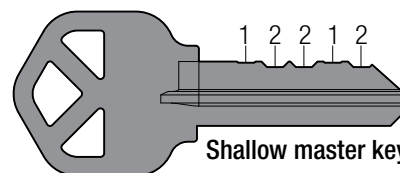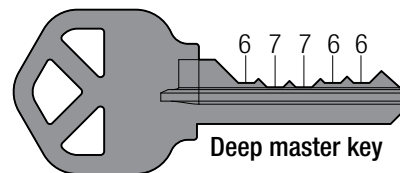

Shallow master key

Figure 5. 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 6.

Master key   6   7   7   6   6

Tenant key   ③ ⑤ ④ ④ ④

Figure 6. 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 7. 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.
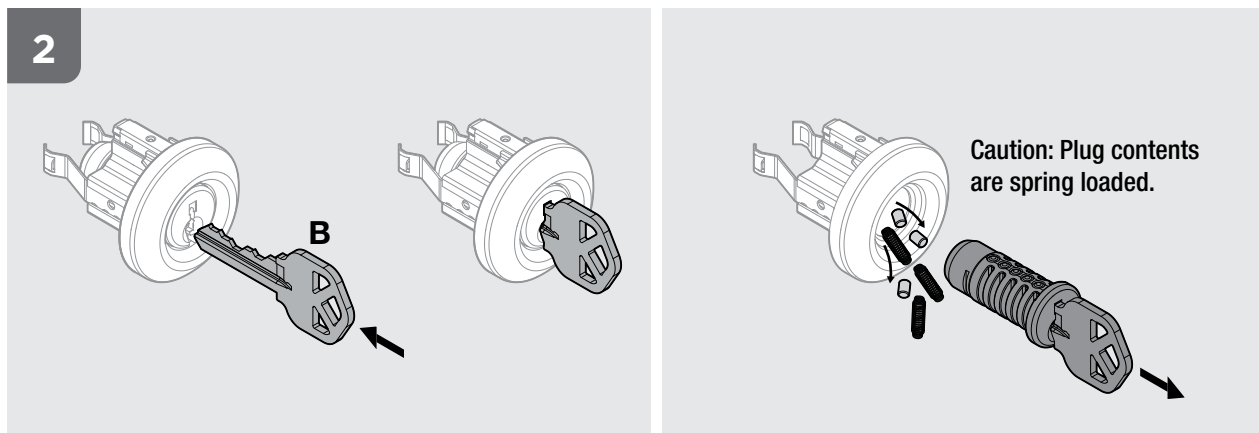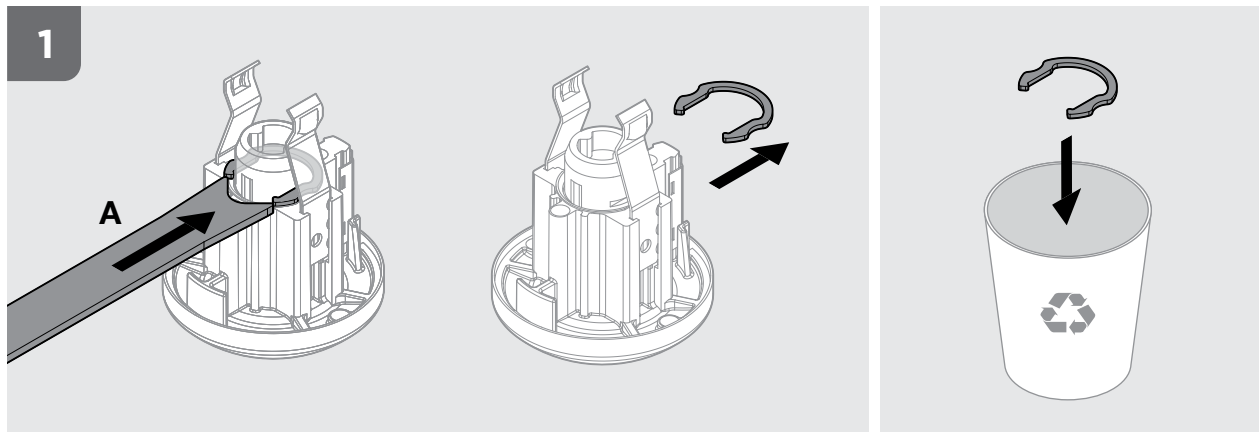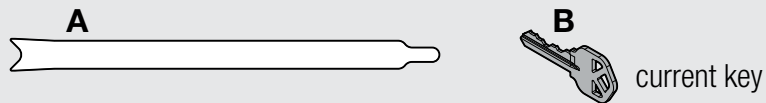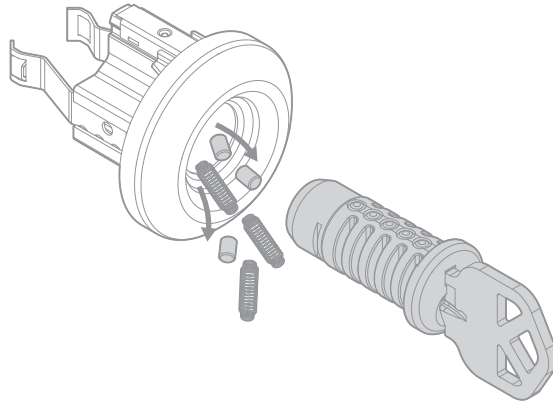
Protecto-Grand Master Keying — This procedure is similar to Grand Master Keying, with the addition of a builder's key and three PK balls in place of a #2 master pin.

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.
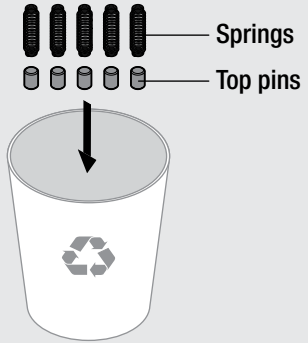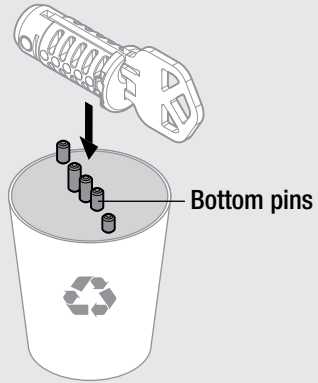
MASTER KEYING
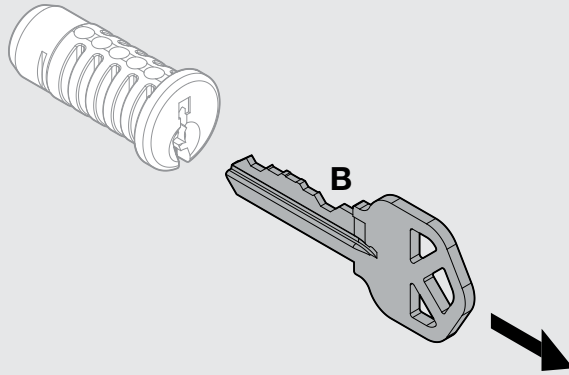## *Cylinder Preparation*

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.
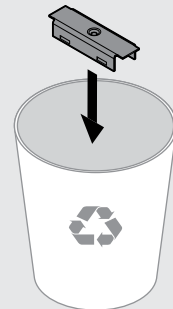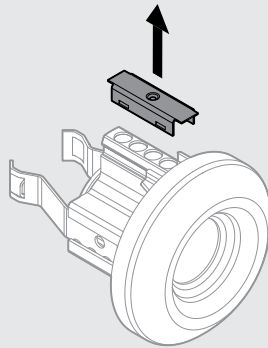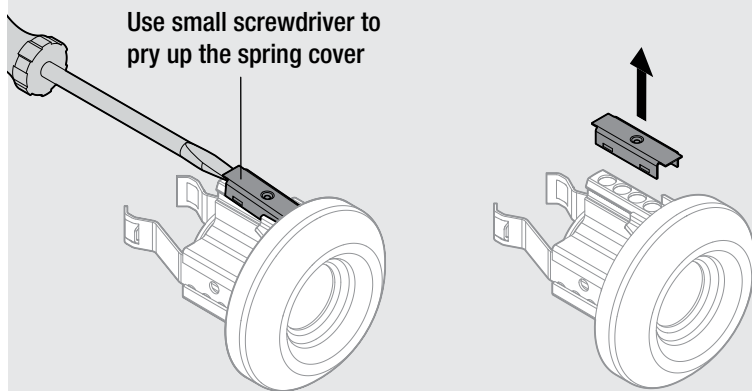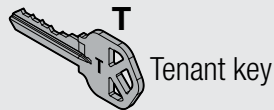
A

B current key

1

A

2

B

Caution: Plug contents are spring loaded.

3

Bottom pins

Springs

Top pins

4

B

5

Use small screwdriver to
pry up the spring cover

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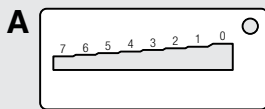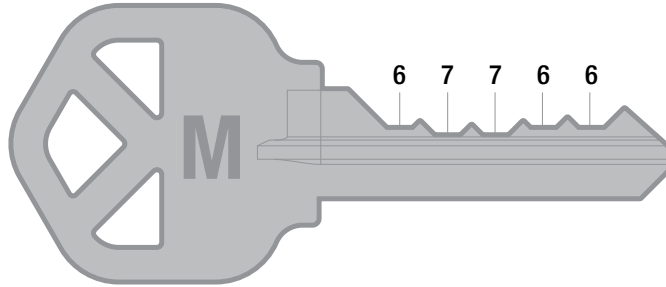
Note: The key cut combinations used here are examples only.

6 7 7 6 6

M

A
7 6 5 4 3 2 1 0

T
Tenant key

M
Deep master key

1 Measure both keys and write down key cut combinations.

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

A

T

M
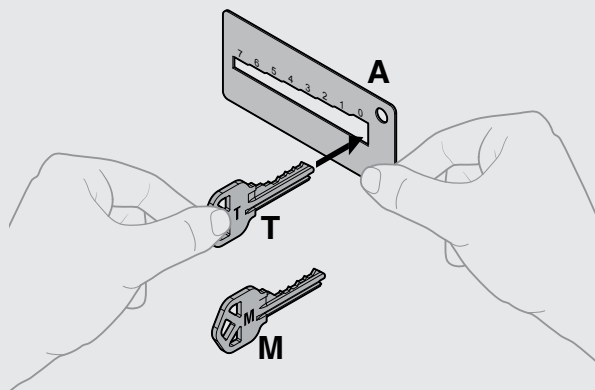
Circle the smallest number of each cut.

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

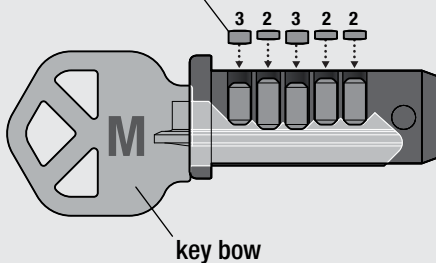Perform procedure on page 4 if you have not done so already.
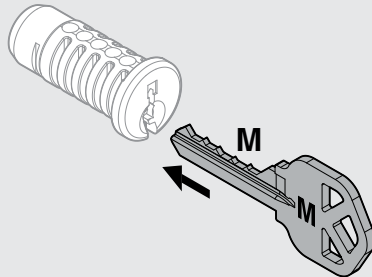
M

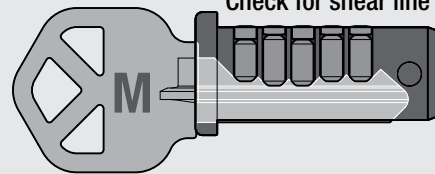Insert required bottom pins, starting with the one closest to the key bow.

3 5 4 4 4

M

key bow

3

Insert required **master** pins, starting with the one closest to the key bow.
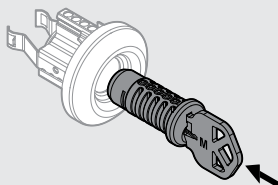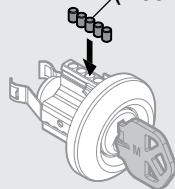
3 2 3 2 2

M

key bow

Check for shear line

M

4

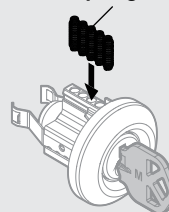Reinstall the plug into the cylinder housing. A standard knob cylinder housing is illustrated here.
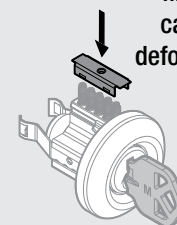
new top pins (.160")

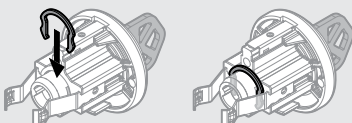⚠ Do not use .180" top pins.

new springs

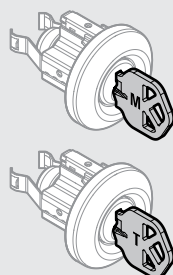Install new spring cover. Press down firmly and be careful not to deform springs.
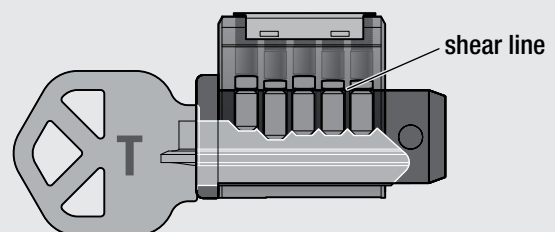
5

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.
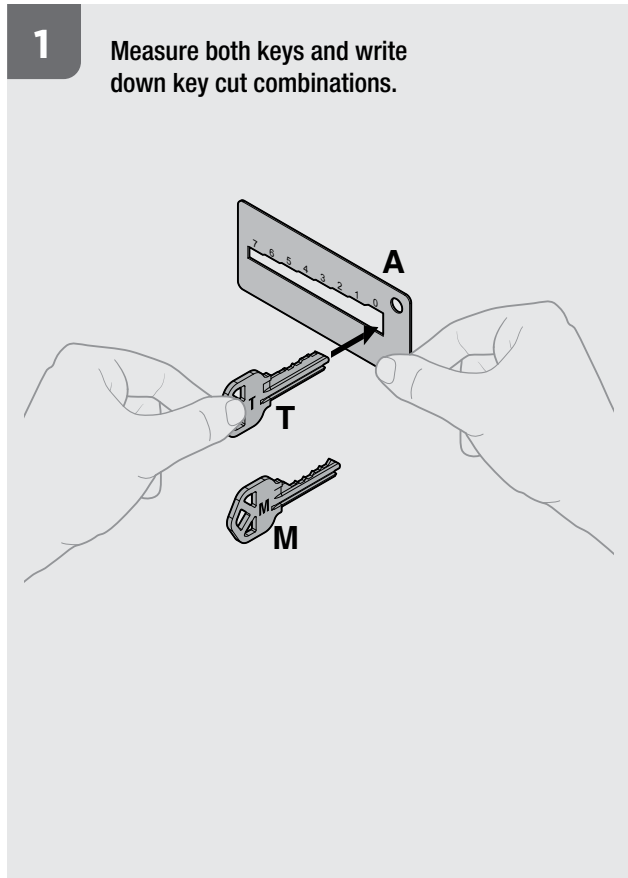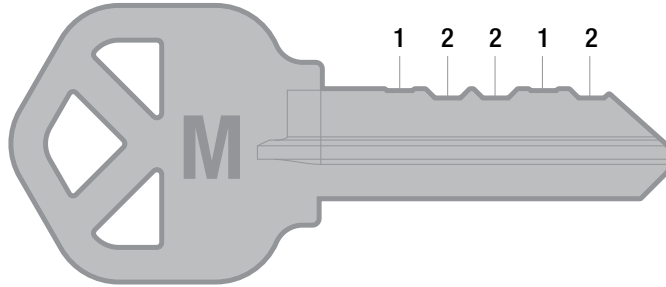
shear line

T

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 2 2 1 2

A

7 6 5 4 3 2 1 0

T
Tenant key

M
Shallow master key

---

1 Measure both keys and write down key cut combinations.

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

A

T

M

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.
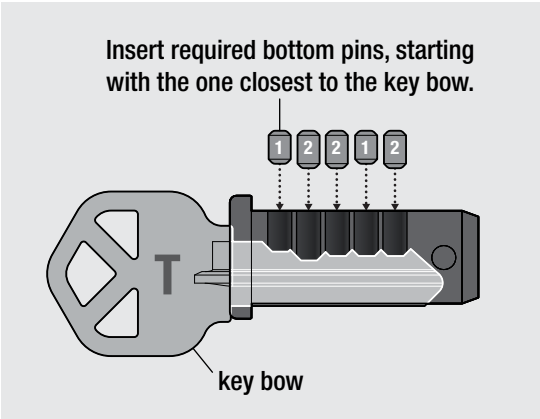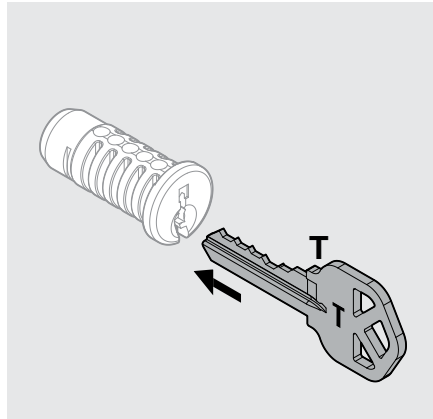
Now, find the difference of each cut.

Master 1 2 2 1 2
Tenant 3 5 4 4 4
        2 3 2 3 2
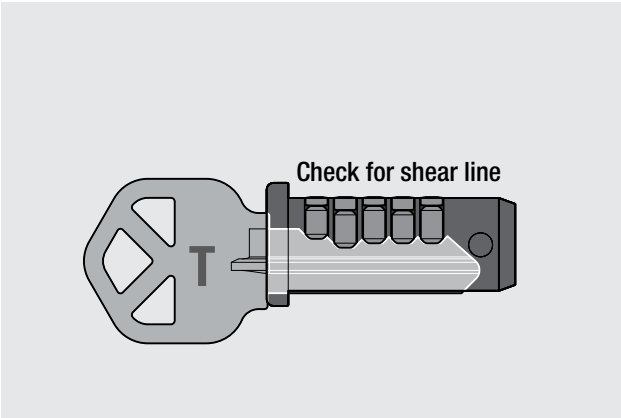
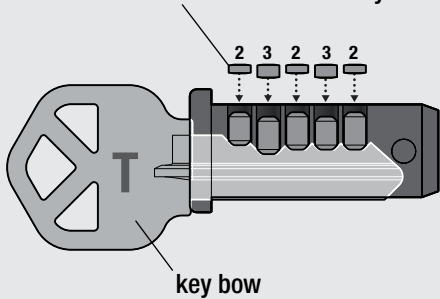**The difference refers to the required master pins.**

8

2

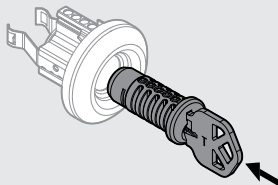Perform procedure on page 4 if you have not done so already.

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

1 2 2 2 1 2

T

key bow

3

Insert required **master** pins, starting with the one closest to the key bow.
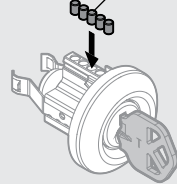
2 3 2 3 2

T

key bow

Check for shear line

T

4

Reinstall the plug into the cylinder housing. A standard knob cylinder housing is illustrated here.
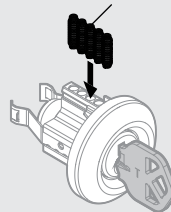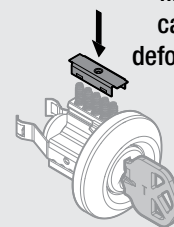
new top pins (.160")

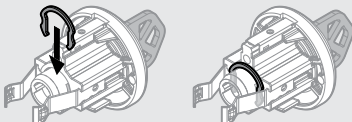⚠ Do not use .180" top pins.

new springs

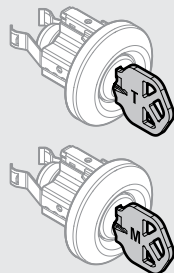Install new spring cover. Press down firmly and be careful not to deform springs.
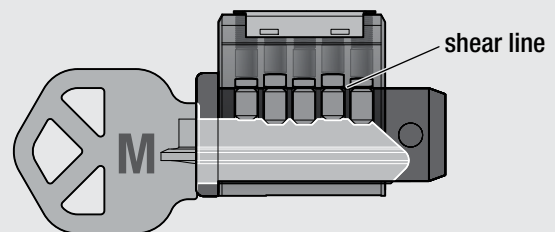
5

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.
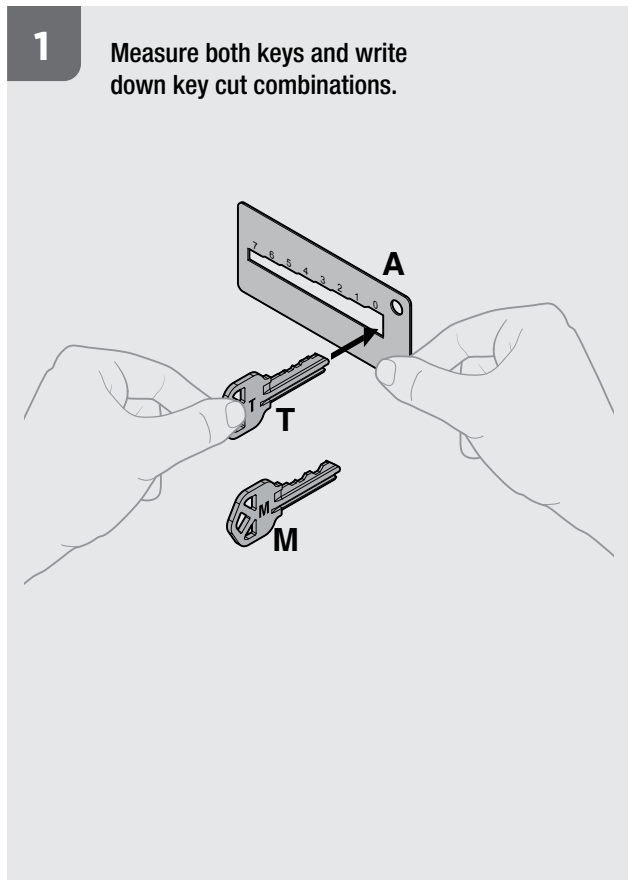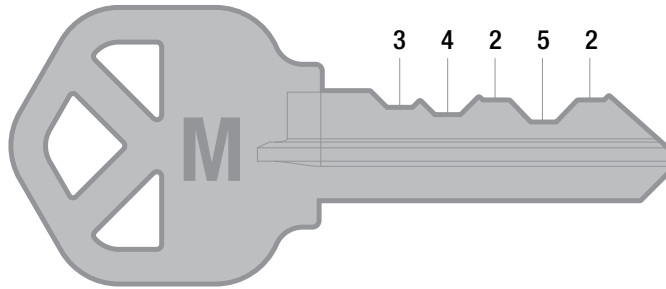
shear line

M

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.

3 4 2 5 2

M

A
7 6 5 4 3 2 1 0

T
Tenant key

M
Shallow master key

---

1   **Measure both keys and write down key cut combinations.**

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

A

T

M

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.

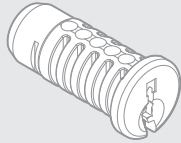|					
Master	3	4	2	5	2
Tenant	5	4	6	3	5
	2	0	4	2	3

The difference refers to the required master pins. A "0" means that a master pin is not put in that chamber.
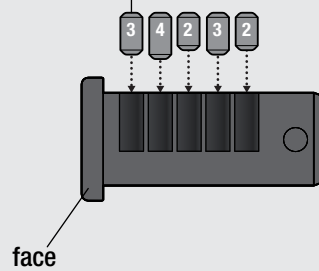
2

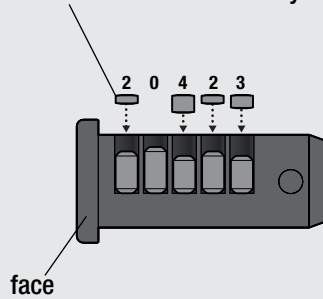Perform procedure on page 4 and isolate the cylinder plug if you have not done so already.

Do not insert key.

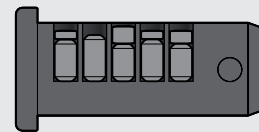Insert required bottom pins, starting with the one closest to the face of the cylinder plug.

3 4 2 3 2

face

3

Insert required **master** pins, starting with the one closest to the face of the cylinder.
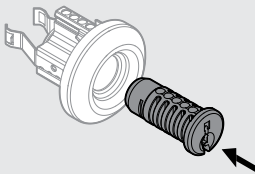
2 0 4 2 3

face

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.
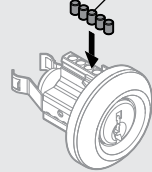
4

Reinstall the plug into the cylinder housing. A standard knob cylinder housing is illustrated here.
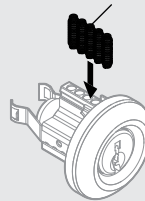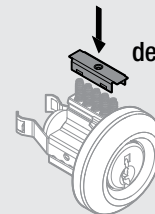
new top pins (.160")

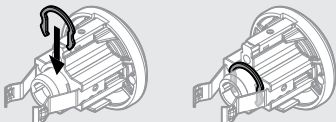⚠ Do not use .180" top pins.

new springs

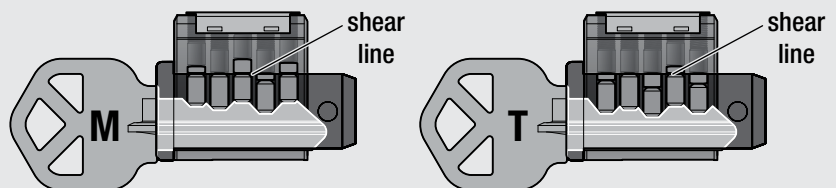Install new spring cover. Press down firmly and be careful not to deform springs.

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.

shear line

M

shear line

T

Cylinder housing has been simplified here.