

FDIC 2025

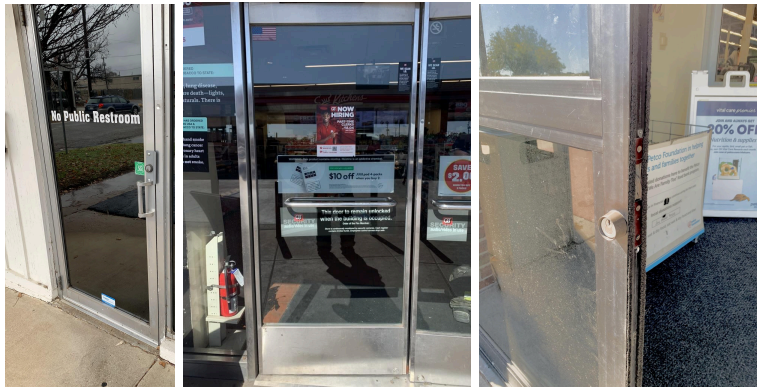
The Other Forcible Entry: Through the Lock

“Train the Trainer”

Aluminum Stile “StoreFront” Commercial Door & Lock Reference

Disclaimer: Take this information at face value and understand that nothing is 100% all the time. There can be variations thereof, modifications or changes made in the forever evolving security world.

The Door/Frame



Door Frame and Door Jamb

- The frame is structural.
- The jamb is the vertical part of a door frame where hinges, keepers and strike plates are mounted.
- Top of door = Header
- Bottom = Threshold

Reveal: Space between edge of door and the door jamb.

- Thicker the door = Wider the reveal

Inward/Outward, bi-directional or sliding orientations.

The Stile

Mortise Lock

- The lock body is mortised into the stile.
- If it is a “narrow” stile or all glass door then it will contain a top or bottom rail and the lock will be mortised into it.

Rim Lock

- Panic Hardware is surface mounted on the interior or exit side of the stile.

Hardware is mounted to the door stile such as pull handles, push/pull bar, armature plate for magnetic locks, self closer, etc.

- If an all glass door then the hardware will be bolted through the glass.
- New variations of magnetic locks can be integrated into the edge of the door.

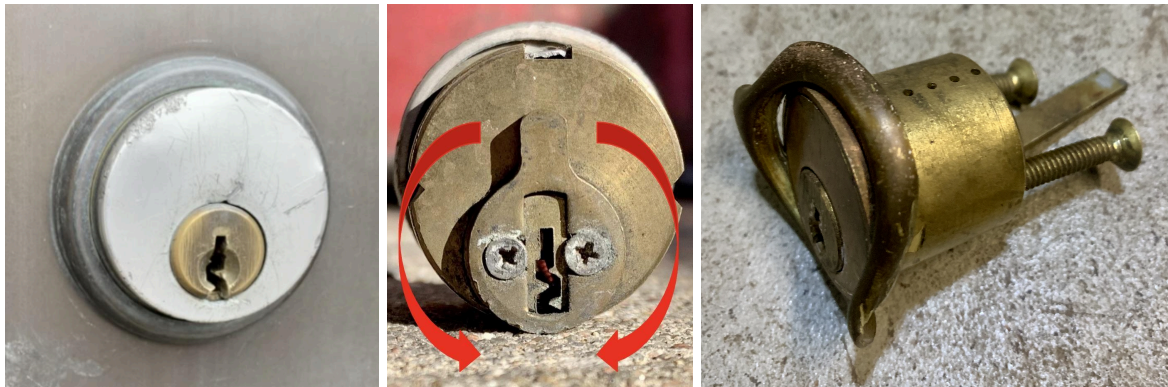
Variations of hinges included offset pivot hinge, no-directional hinge, piano hinge or standard steel hinges.

The Lock Cage

Three main components relevant to through the lock: Cylinder Opening, Action/Mechanism & the Bolt/Throw

- These features are preassembled in the cage and cannot be changed.
- The cage can be installed vertically or horizontally. This changes the orientation of the components within the cylinder opening not the location.

The Cylinder



A weak spot in aluminum stile security per Adam's Rite.

More commonly made of soft metal (brass).

Case hardened cylinder housing prevents biting and torque needed to unthread with hand tools (channellocks).

Blank or "Dummy" cylinders prevent tampering.

Cylinder guards and tapered cylinder/collars prevent spinning/prying.

Spacers only fill the gap between the face of the cylinder and door; they provides no cylinder protection.

The Back of Mortise Cylinders

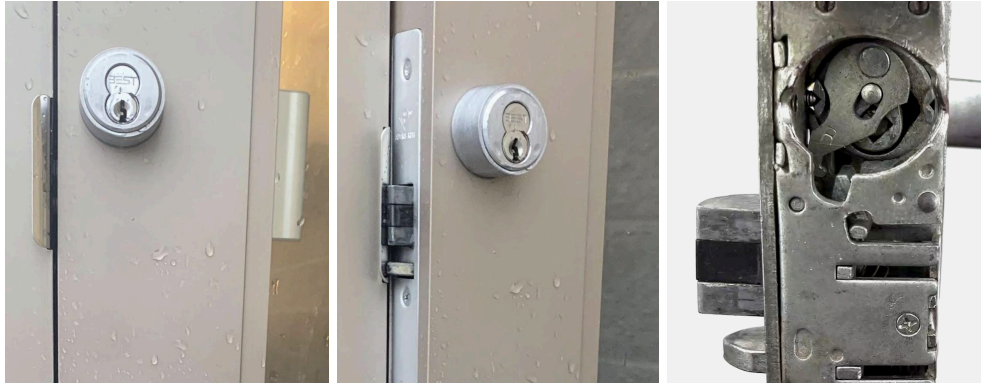
- An offset cam on the back of the cylinder manipulates the action.
- The cam rotates 360; up is the neutral position.
- The inside and outside cylinders work independent of each other.
- The cylinder threads into the lock cage, not the door. Secured in place by a set screw.

The Back of Rim Cylinders

- A stem on the back of the cylinder intersects through the door into the action.
- Secured by two through bolts to a mounting plate.

Mortise Lock Variations

Deadlatch or Slam Latch



The latch is spring-loaded. When the latch hits the strike plate it retracts then extends into the keeper when fully closed.

- It provides immediate security when closed but not as formidable as a deadbolt variation.

Contains an anti-loitering pin.

- When depressed, it prevents slipping the latch.

Designed with egress in mind.

Life Safety Code 101 straights:

- Lock release mounted 34" to 48" from the ground.
- 15 lbs of max pressure to release the locking device.
- One motion releases all locks and/or latches.

Outside cues:

- Strike plate or electric strike, wear marks on the door jamb or a latch guard.

Looking through the glass:

- A paddle or handle hardware behind the cylinder.

After cylinder removal within Cylinder Opening:

- A cam with a J hook in the back of the opening can be seen..

Manipulating the Action:

1. Within the cylinder opening, place the key tool, finger, etc toward the frame side of the opening in front of the cam J hook. (A finger works well to feel what moves; if the action sticks, switch to a key tool.) Think of the J hook as an arrow.
2. Locate the prominent tab sticking up from the action. The tab is used to push, by the cam on the back of the cylinder, the action in the desired direction.
3. Push down to release the spring-loaded pin, push the tab and slide the action away from the frame.
4. Hold the action away until the latch clears the strike plate before releasing.
5. Chock the door so the latch cannot re-engage.

Pivoting Deadbolt



A superior mortise lock for aluminum stile security.

A formidable bolt made of 6 to 8 layers of laminated steel with the middle layer made of ceramic to prevent against a “hacksaw” attack.

The bolt pivots 90 degrees in and out of the lock cage.

- Recessing the bolt into the cage allows for a longer throw; up to 1- $\frac{3}{8}$ ”.

The variations include:

- **The Straight Bolt**
- **The Hook Bolt** recesses or hooks half of the throw into the keeper. This prevents prying or lifting the door off the tracks. The hook bolt is the means of securing double sliding doors by locking them together.
- The straight or hook bolt with a single or double $\frac{3}{8}$ ” hexagonal rod that extends down into the threshold, up into the header or both. With one motion, the action within the lock cage releases the pivot bolt and retracts the rods.

Within the cylinder opening reveals three key details:

1. Identifying the pivoting deadbolt.

Distinguishing features specific to this lock variation include:

- A swingarm with a lightbulb cutout.
2. Whether or not the bolt is activated.
 - Be careful not to inadvertently lock the door. The action is “reversed” from our natural instinct. There could be another lock or magnetic securing the door not the pivoter.
 - If the swingarm is away from the frame then the bolt is activated.
 - If the swingarm is to the frame then the door is unlocked.
 3. The location of the action.
 - The swing arm is in line with and moves with the action.
 - Within the swingarm, at the base, is the cutout where the pivot pin transects through the lock body.
 - To manipulate the action:
 1. Place the key tool at the base of the swingarm on the spring-loaded roller.
 2. Press down to release the pivot pin and move the action toward the frame.

Short Throw Deadbolt



The Bolt is limited in size due to the width of the lock cage; hence “Short Throw”.

The Patch bolt is a variation thereof.

- Commonly installed on the top or bottom rail of “narrow” stile or all glass doors.

Manipulating the Action:

1. Within the cylinder opening, place the key tool, finger, etc toward the frame side of the opening. (A finger works well to feel what moves; if the action sticks, switch to a key tool.)
2. Locate the prominent tab sticking up from the action. The tab is used to push, by the cam on the back of the cylinder, the action in the desired direction.
3. Push down to release the spring-loaded pin, push the tab and slide the action away from the frame.

The Rim Lock

Panic Exit Device or Crash Bar Device



Panic hardware is a slam latch style locking device.

- Can have vertical latching rods.

Designed with egress in mind.

Life Safety Code 101 straight:

- Lock release mounted 34” to 48” from the ground.
- 15 lbs of max pressure to release the locking device.
- One motion releases all locks and/or latches.

Can have an integration of:

- Motion release, proximity release, touch sense electrified bar, etc.

Manipulating the Action:

1. Locate where the stem of the cylinder inserts into the action. This should look like a + or –.
2. Insert a key tool or 6 in 1 screwdriver into the slot and rotate left or right. The number rotations have a wide range.
3. The latch may spring back after removing the key tool depending on the variation. In this circumstance, hold the action away until the latch clears the strike plate before releasing.
4. Chock the door so the latch cannot re-engage. If readily accessible, the bar can be placed in the latch hold back position.

Size Up Methods

Lock Knowledge

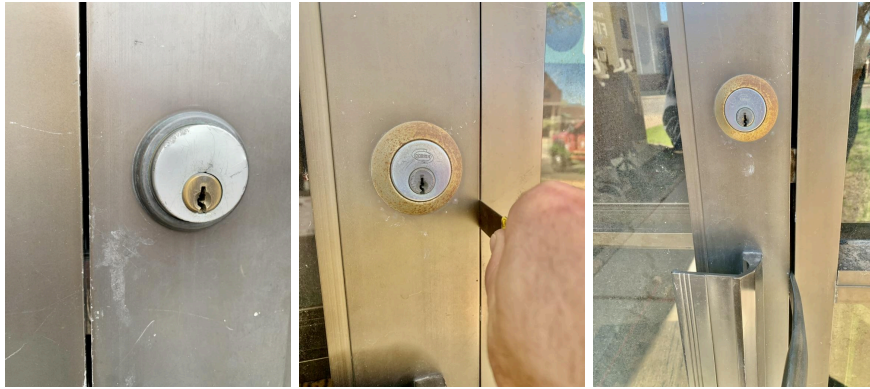
First and foremost, once you build a foundation of lock (experience; trial & error) knowledge then your size-up can be based solely on distinguishing characteristics of that particular lock. A progression through other means of size up come with unfamiliarity; whether that be from a new variation thereof, modifications or simply your exposure to a that particular lock.

The Location of the Keyway or the Clock Method



1. Before removing the cylinder, make note of the keyway location. Up/down/left/right; this will be your 6 o'clock every time.
2. Remove the cylinder and orient back to the predetermined 6 o'clock position.
3. Locate the action in either the 5 o'clock or 7 o'clock position depending on the lock type and/or location on the door.
4. Move the action to release the latch or bolt.
If found in the 5 o'clock position, move the action to the 7 o'clock position.
If found in the 7 o'clock position, move the action to the 5 o'clock position.

Cylinder in Relation to the Throw



This method of size up can be done before or after cylinder removal.

1. Locate the Cylinder or Cylinder Opening

2. Locate the Bolt or Latch

This can be done on outward opening doors by:

- By looking into an open reveal and visually seeing the bolt or latch.
- By opening up the reveal with a tool to visually see the bolt or latch.
- By sliding a shove tool through the reveal and hitting the bolt.

On inward opening doors:

- By sliding flexible plastic through the reveal and hitting the bolt or latch.

3. The Action will be located between the Cylinder and Bolt.