	Cincinnati Fire Department Fire Training Supplement DRILL BOOK	SECTION #1 General Fire Fighting
Date: April 2018	**TOPIC TITLE:**	Total # of Pages: 16
Section #: 4	Forcible Entry – Responsibility, Locks & Doors	Topic #: 16

Exerpts from FDNY Forcible Entry Manual

RESPONSIBILITY

Again it is important to understand that the fire cannot be extinguished, searches cannot be made, and extension of fire cannot be checked until entry is made. The fire fighter assigned the job of gaining entry is given that responsibility. To accomplish this task, there are an assortment of tools and techniques, which this text will introduce to you. Some techniques are basic, others are more difficult, but all are achievable.

Proficiency:
Why all firefighters should be proficient in the basic forcible entry skills.

- **The need for speed in gaining entry.** It is important to realize that most fire and emergency operations start at the front door or main entrance. Before any tactical moves can be made, e.g. search, rescue or the stretching of a hand line to the seat of the fire , the entry door has to be opened.
- **Reduce damage resulting in improper techniques.** Most people given tools can gain entry. A door can be "battered" down with an axe (the movie version). However, until we take into account what is behind that door, we want to ensure the door's integrity. Why destroy a perfectly good door for a non-fire emergency? With the proper training, most firefighters will be able to open a door with minimal damage.
- **Professionalism.** This is the benchmark of a good firefighter. The firefighter represents the department and ultimately the city or hamlet. Pride in our work will reflect pride in the department. By reducing the damage to a minimum we ensure the safety of the people we serve. Remember that when we leave the fire scene, the doors we destroy leave the occupants vulnerable to further loss from vandalism. The people we are sworn to serve rely on our good judgement.

Jimmying A Door:
The old technique of **"jimmying a door" (**the spreading of the door away from the jamb without damaging the lock) can seldom be accomplished today. This is due to stronger doors, more formidable locks and multiple locks on a single door.

The primary motivation should be professionalism. As a firefighter, you have an obligation to get the job done **safely, efficiently and with the least amount of damage.** At times, brute force must be combined with skill, technique and knowledge. You control that action.

For situations such as: water leaks, steam leaks, lock-ins, etc, consider the least damaging means of gaining entry. In some instances, you may be able to enter through a window or by using a "Thru-the-Lock method of entry. Always **use common sense** when forcing your way into any premises; you never know what is behind that door or window.

You must also consider what will happen once your job is done. Who will provide security for the occupancy after you leave?
In order to become proficient in the skill of forcible entry, you should have a mixture of:

Hands on training- this is the primary way to sharpen your skills.

Experience- by going to fires and emergencies and actually "forcing the door."

Knowledge- may be gained by experience, reading, observing, attending training seminars and also by exchanging information and ideas with other firefighters.

Finally, using some **common sense** and trusting your instincts; they are usually correct.

"Why Are You There?"

What are the reasons for entry? Is it a **Tactical Response?** That is, for a fire and/or life-threatening emergency, or is it a **Routine Response** for a non-life-threatening emergency? In either situation, control, speed and effectiveness of access to the area of operations will justify the amount of damage done by the firefighter. Remember, the goal is to: **save life, extinguish fire and control all hazards.**

Size-Up:

This is the ongoing evaluation of the problems confronted within a fire situation.

As you get off the apparatus, you should be asking the following questions:

Where is the fire?
How many floors?
What type of occupancy?
What type of building?

Size-up starts with the receipt of an alarm and continues until the fire is under control.
This process may be carried out many times and by many different individuals during a fire or an emergency.

In conducting a size-up we should consider the following:

- **Occupancy:** Knowing you are responding to a residential or commercial occupancy will help determine the type of doors and locks you may encounter. This will help determine what specialized tools may be required.

- **Door:** Knowledge of the type of door and its components may guide you as to proper tool placement and method of entry. This would include:

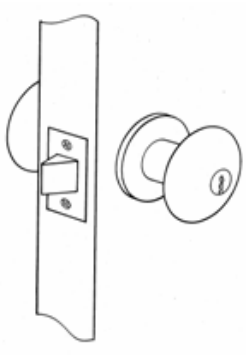
  1. **Direction of door opening:** most **residential doors** open into the occupancy. They are considered **inward opening** (away from you). Whereas in **commercial occupancies,** the door opens out of the occupancy. They are considered **outward opening** (toward you).
  2. **Door Frame:** A structural case or boarder into which a door is hung. Also referred to as a **Door Buck**, **Door Jamb** or simply, the "**Frame**." They can be made of metal or wood.
  3. **Hinges:** There are many types of hinges used today. The types we discuss here will be known as (a) standard, (b) self-closing, and (c) pin type.
  4. **Replacement Door:** A new pre-hung door and jamb installed into an **existing** doorframe.

- **Locks:** To determine the degree of difficulty in forcible entry you should have a working knowledge of the **various types of locks** as well as a basic understanding of how they operate and how they are installed. One should also take notice of how many locks are present and where they are located on the door.

- And finally, you should always **TRY THE DOOR KNOB - "is the door open?"**

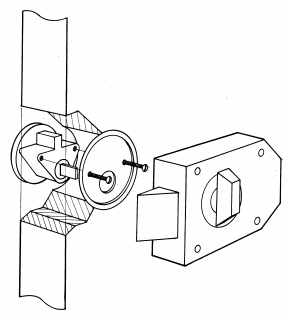
TYPES OF LOCKS

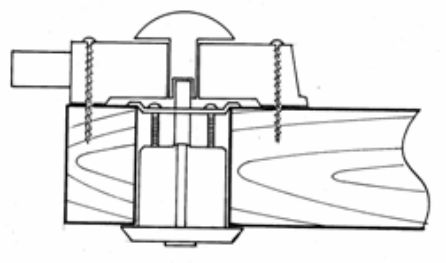
KEY-IN-THE-KNOB LOCK - As the name implies, the locking mechanism is part of the knob. These locks are found on both residential and commercial doors.



TUBULAR DEAD BOLT - This is a very popular locking device. It may be single or double key activated. It is a cross between a mortise lock, rim lock and a key-in-the-knob lock.

RIM LOCKS - These locks are usually installed as an **add-on lock.** They are installed on the **inside surface of the door (**with the cylinder extended through the door). Only the cylinder is visible from the outside of the door.



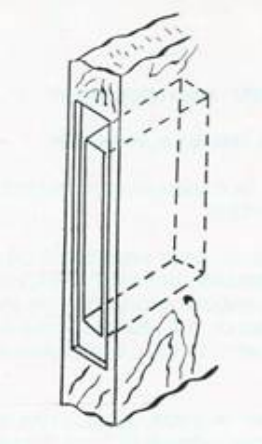


Deadbolt - Unlike a spring latch, this device must be manually thrown to engage the bolt into the keeper. With the bolt extended, this lock cannot be engaged by slamming the door.

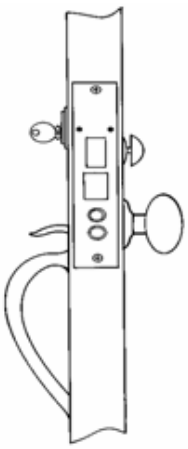
Night Latch - The latch is beveled to allow the door to be slammed shut. Some of these spring latches have an inside button to prevent the latch from returning within the lock, e.g. sliding open.

Vertical Dead Bolt (Segal Lock) - This rim lock has a bolt which drops down and through the keeper. This device must also be manually engaged. It is a "jimmy" proof lock.

MORTISE LOCKS - Are designed and manufactured to fit into a cavity in the edge of either a metal or solid wood door. They have a solid, threaded key cylinder, which is secured in place by set-screws. The two most common types are; Mortise/Latch Key and Mortise/Door Knob (see below).

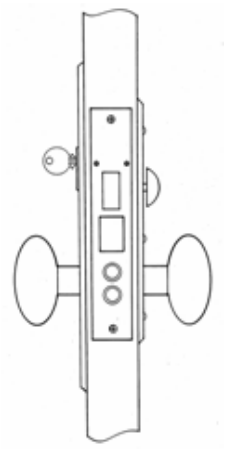


DEAD BOLT AND LATCH - One of the most popular locks in use today. It contains both a latch and a bolt in a single unit. It is distinguishable by the proximity of the lock cylinder and a door knob or latchkey. Below are examples of this type of lock.



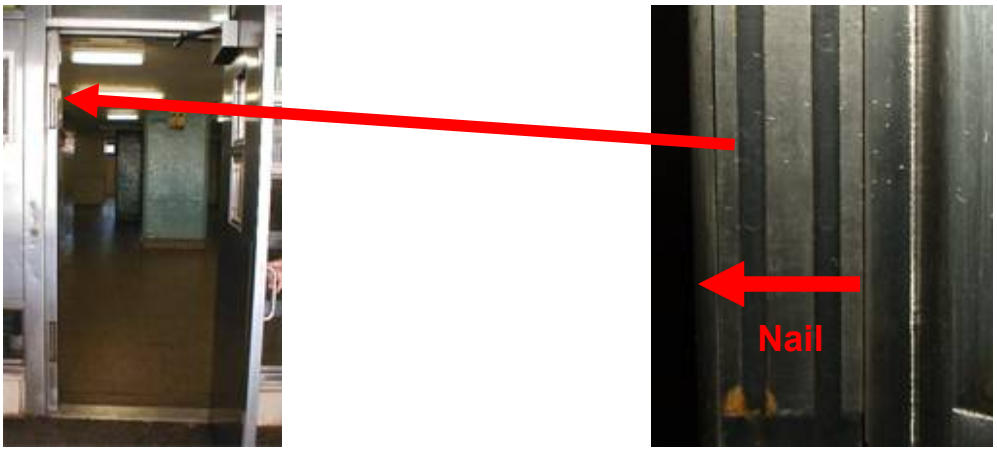
Mortise / Latch Key

Deadbolt And Latch



Mortise / Door Knob

MAGNETIC LOCK – A relatively new locking device that has been incorporated into occupancies for added security.



Note: Placing a common 8-10 penny nail over the magnet will prevent the door from re-locking.

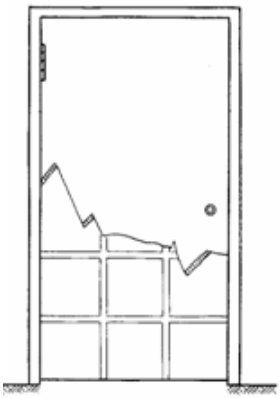
TYPES OF DOORS

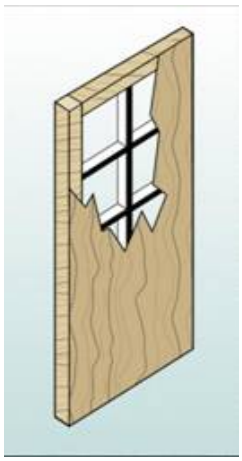
WOOD AND GLASS PANEL DOOR - This was a very popular door in older buildings. It provided light to the public hall in multiple dwellings. The original plain glass panels were changed to wire glass. Some wood and glass doors may contain plate glass. Today these are found in Brownstones and some older "Mom and Pop" stores.

Note: Plate glass may be quite dangerous. When broken, it may fall in large sharp pieces. These pieces have significant weight and force to cause serious cuts or stabbing and dismembering injuries.

WOOD DOOR - There are two types of wood doors; Hollow Core and Solid Core.

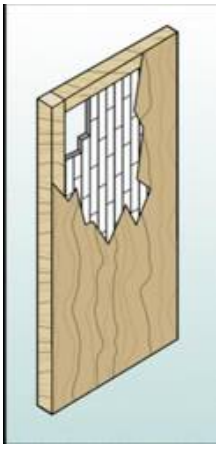
Hollow Core: Made up of an assembly of wood strips formed into a grid. These strips are glued together within the frame forming a stiff and strong core. Over this framework and grid are layers of plywood veneer paneling.





WOOD DOOR

Solid Core: The entire core of the door is constructed of solid material such as tongue and groove boards that are glued within the frame. Other solid core doors may be filled with a compressed material that is fire retarded. In either case, the door is sided with a plywood veneer covering.



KALAMEINE DOOR

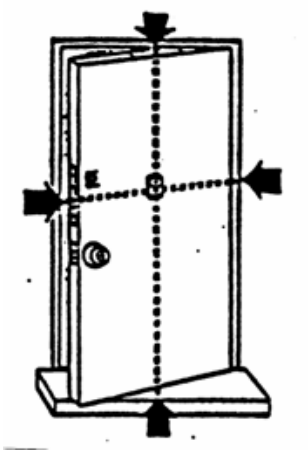
The main problem with a wood door, especially in multiple dwellings, was the "burn-through" time. To overcome this problem and to increase the burn-through time, these doors were covered with metal. They were known as "**Kalameine Doors."**

METAL DOOR (Project Doors)

Constructed of metal, these doors are usually set in hollow or filled metal doorframes. When set in a masonry wall, as well as a metal frame, they are quite formidable and will hold back considerable fire. Today a metal door is quite common even in private dwellings.

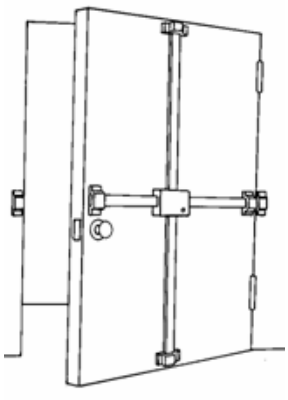
MULTI-LOCK DOOR

One of the most advanced locking systems available that utilizes a key and multiple bolts and keepers. Built **into the door**, are four rods, which extend out from a keyway toward all **four** edges of the door. The throw of each rod is approximately an inch into the frame. It is designed to prevent any rod from moving separately. Originally built as a deterrent against terrorism, it is used today in occupancies where security is very important.



MULTI-LOCK (Add-On)

With the popularity of the multi-lock door came this less expensive version which is mounted on the inside surface of the door. Similar to a **Rim** lock, attached to the inside of the door are four bars, which extend out from a keyway toward all **four** edges of the door. The throw of each bar is approximately one inch into the frame or keeper. It is designed to prevent any rod from moving separately. When properly installed, it is equally as effective as the Multi-Lock door.



TEMPERED GLASS DOOR

Distinguishable by the lack of a full frame with little or no trim. The door handle is usually mounted through the glass. The lock may be installed in either the top or bottom stile **usually the bottom one.** Commonly known as a "Glass Door."

The breaking characteristics of Tempered Glass are quite different than ordinary Plate Glass. This is due to the heat treatment given to the glass during tempering. This results in high-tension stress in the center of the glass and high compression stress in the exterior surfaces. These tension and compression stresses balance each other. The heat treatment also increases the strength and flexibility as well as the resistance to shock, pressure and temperature increases.

Approximately four times stronger than plate glass, when broken, tempered glass disintegrates into relatively small pieces.

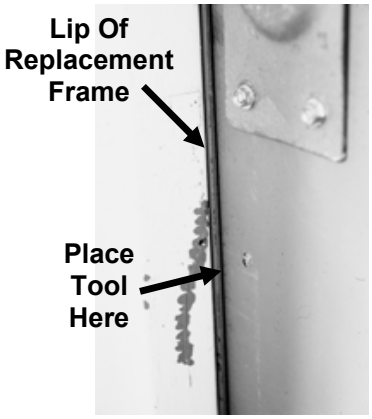
ALUMINUM FRAME GLASS DOOR

These are the most popular doors in commercial occupancies, especially the taxpayer type. It is not uncommon to have the plate glass replaced with tempered glass, lexon or plexi-glass in some areas.

REPLACEMENT DOOR

A relatively new situation where the existing doorframe is covered with a pre-hung steel door and a new metal pre-assembled doorframe is attached to it. This replacement assembly is screwed into the old frame. It may sound simple, but it is difficult to recognize and placement of the forcible entry tools must be between the **new doorframe** and the **door** and **not** between the **old frame** and the **replacement doorframe.** The door with the frame is laid in over the existing frame.

Replacement Door



Lip of Replacement Frame

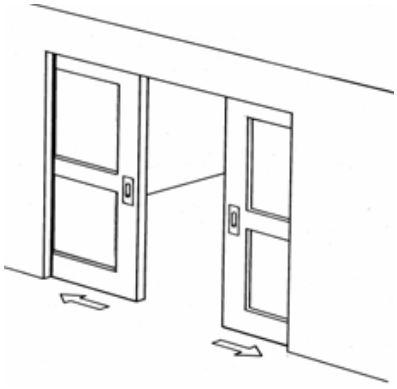
Replacement Door Frame

SLIDING DOORS

These doors may travel either to the right or left of their opening or in the same plane.
Sliding doors are usually supported upon a metal track and their side movement is made easier by small rollers or guide wheels.
A bar may be placed between the fixed frame and the door or in the track to prevent unlawful entry.

POCKET DOORS

These doors were quite popular many years ago and have found resurgence in today's construction.
They are interior sliding doors that slide into a partition or wall when pushed open and may be referred to as **"pocket doors."**
These doors may be forced similar to a swing door, except that they must be pried straight backward from the lock.
A major drawback is the voids they create in a fire situation.



ADDITIONAL SECURITY DEVICES

SLIDING BOLT

A device that travels in a track, which locks into a recessed hole or hardware. Padlocks may pass through rear of bolt and make the bolt secure. These slide bolts may be made of case-hardened steel. They are installed with screws or carriage bolts, which may be exposed or guarded.



STATIC BAR

A fastening device that can be mounted across the door at any point. Generally they are in pairs. The bars are held in place by brackets, which may be fastened to the doorframe.



Outside View

NOTE: With the Sliding Bolt and Static Bar in place, you know the occupants did not exit through that door. There is either another means of egress or the occupants are still inside. Static bars in place may not be visible from the outside.

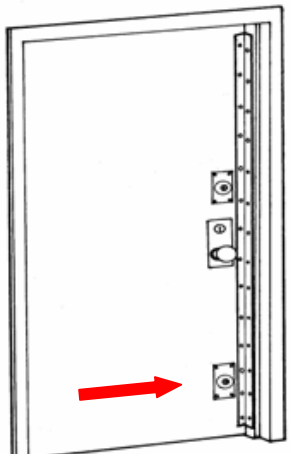
ANGLE IRON

A device secured to the door and occasionally the doorframe. It can be found on both inward swinging doors (away from you) and outward swinging doors (toward you). It may be partial or run the full vertical length of door. It represents another form of security which may be added to an occupancy.

SHIELDED ANGLE IRON

A device that is mounted to both the door and the frame and inter-locks on itself. It may be partial or run the full vertical length of the door. It is two separate pieces mounted, one to each surface. By adding this inter-locking piece of angle iron additional security is added to the occupancy.

NOTE: The arrow points out a lock cylinder located NEAR THE BOTTOM of the door. This simple but ingenious set up prevents most "push-in" forcible entries.



CYLINDER GUARDS

A raised rectangular metal plate over the lock cylinder that is held in place with four carriage bolts. These bolts may be exposed or hidden in the body of the guard.

Black

Heavy Duty

Brass

HOME MADE LOCKING DEVICE

A recent ingenious method of securing a door has started to appear in multiple dwellings. This is a home made modification of a "chain lock."

Here the occupant bolts a length of heavy chain to the inside of his door. (The Chain is similar to that which secures motorcycles.) Generally the carriage bolt and washer are secured approximately one foot or less from the edge of the door and about one-foot above the doorknob. The other piece of chain, similar in size and strength, is attached to the doorframe.

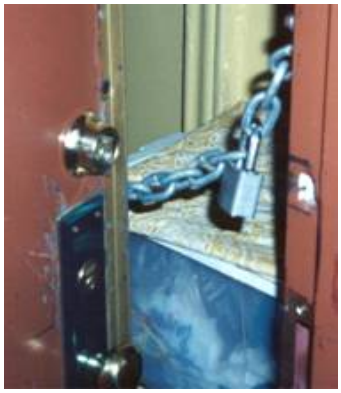
Joining the two pieces is a heavy-duty padlock.

What makes this device so ingenious is its simplicity and effectiveness. Since the carriage bolt may be overlooked, the forcible entry team will force the door, and then be confronted with a heavy-duty chain and lock which continues to secure the door.

Most people know a chain and lock can be quite formidable, especially if not under tension. Add to this the products of the fire venting out through the opening created by the initial forcible entry. Now the team must remove the chain and lock under much worse conditions.

Suggestions: In your size-up of the door, check for the presence of a bolt head in the door. If you suspect this is the chain lock, drive the bolt head through the door **BEFORE** forcing the door. This can be done with the pike of the Halligan Tool and sharp blows delivered with the axe or maul. **Size-up is very important**. If you miss the bolt head on the door, entry may be delayed.

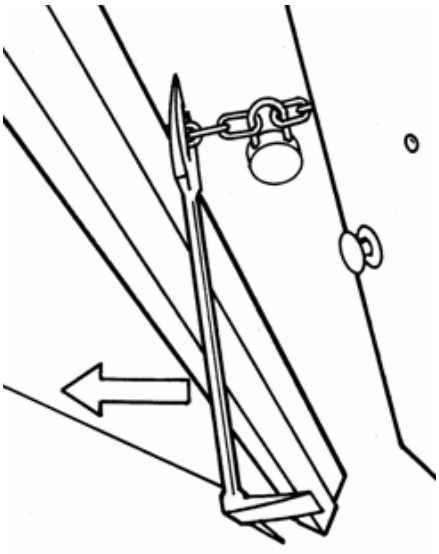
HOME MADE LOCKING DEVICE



If the bolt is missed, and the door is forced open, lock the fork of the Halligan Tool around the chain at the frame side and try to pull it out of the frame. While doing this, maintain pressure on the door in the open position.

If fire emits from the open door, close the door until a charged line is in position, then continue as above.

This is not a simple operation. If the chain is bolted through the frame or secured with more than a single bolt, a forcible entry saw may have to be used. In this case, a delay will cause the fire to accelerate.



Lock Halligan Into Chain And Attempt To Pry Chain From Frame.