

Chapter 9.0

Forcible Entry

Forcible entry is a necessary skill and ability for gaining access to structures or other properties during and emergency incident. This chapter will list the tools carried and utilized by Pendleton Fire Department for such instances, as well as information pertaining to different types of obstacles one may encounter during emergency operations.

This chapter will be broken down into the following sections:

- 9.1 Forcible Entry Tools**
- 9.2 Types of Locks**
- 9.3 Types of Doors**
- 9.4 Types of Hinges**
- 9.5 Conventional forcible Entry**
- 9.6 Hydraulic Forcible Entry**
- 9.7 Thru the Lock Forcible Entry**
- 9.8 Chocking the door**
- 9.9 Forcible Entry Training Door Prop**



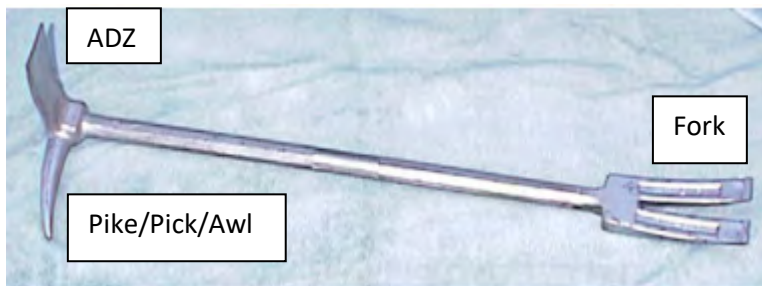
Forcible Entry Tools

Conventional Tools

- **Axe** (6 and 8 pound)



- **Halligan Tool**



- **Maul/ Sledge Hammer-**



Thru-the-Lock Tools

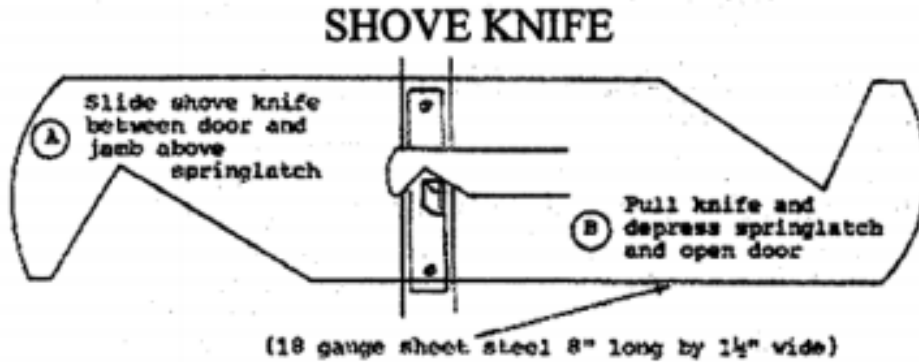
A- Tool (Officer's Tool)- The "A" Tool is forcible entry tool used by firefighters. It consists of a rounded steel handle approximately 18 inches long, with one end tapering to a flattened tip for prying or punching and the other terminated with a perpendicular steel head. The head is four inches long and has a steel forked end opposite a striking end. The A-tool, like the smaller K-tool is used to remove the lock cylinders.



K-Tool and Key Tools-The K-Tool is forced behind the ring and face of the cylinder until the wedging blades take a bite into the cylinder body. Light blows with the axe set the K-Tool. The Halligan Tool's adz is placed into the slot on the face of the K-Tool and pried upwards, pulling the cylinder from the door.



Shove Knife- It is flexible, 10 gauge sheet steel, approximately eight inches long by one and half inches wide. The device is slid between the door and the doorframe above the spring latch. Once the “hook” end catches the latch, the tool is pulled toward the operator which depresses the spring latch opening the door. It only works on outward swinging doors.



Hydraulic Tools

Hydra-Ram II- The Hydra-Ram weighs only 11 lbs. and is only 13 inches long. Hydra-Ram has a maximum thrust opening of 6”. The jaws are made of special stainless steel. 10,000 lbs. of force is acquired at 138 lbs. pressure at the handle. The Hydra-Ram gains full extension in 8 strokes. The Hydra-Ram can be used in any position, even upside down, without affecting its operation.



External Lock Tools

Bolt Cutter- Another tool used for cutting hasps, light-duty padlocks and chains. It is limited by the opening spread of the blades. It is not recommended for cutting case-hardened shackles since that may damage the cutting blades. If possible when cutting, try to cut the staple holding the padlock. If you have to cut the padlock, cut both sides of the shackle.

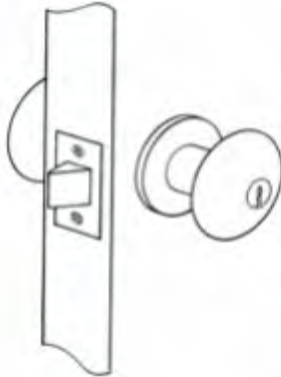


Power Saw (Rotary)- The Power Saw improves forcible entry efficiency by facilitating cutting operations at fires, especially where roll-down doors are present. These saws come in a variety of models. They require a metal cutting blade when cutting padlocks and/or roll-down doors. The saw is usually run at low RPM's until a groove is made in the metal; the power is then increased to maximum speed to complete the cut.



Types of Locks

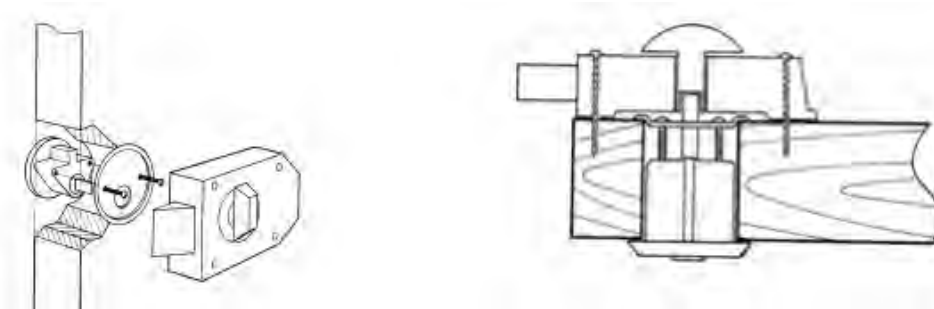
KEY-IN-THE-KNOB LOCK - As the name implies, the locking mechanism is part of the knob. These locks are found on both residential and commercial doors.



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.



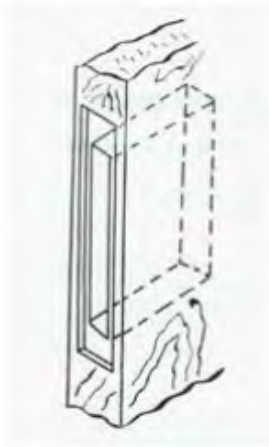
Night Latch - The latch is beveled to allow the door to be slammed shut. Some of these spring latches have an inside button to prevent the latch from returning within the lock, e.g. sliding open.



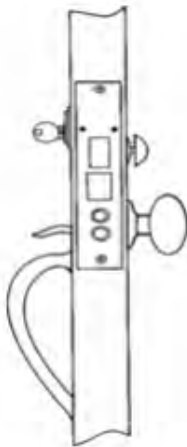
Vertical Dead Bolt (Segal Lock) - This rim lock has a bolt which drops down and through the keeper. This device must also be manually engaged. It is a "jimmy" proof lock.



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 setscrews. The two most common types are; Mortise/Latch Key and Mortise/Door Knob.



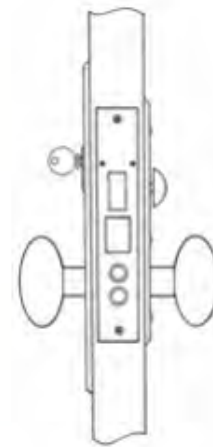
DEAD BOLT AND LATCH - One of the most popular locks in use today. It contains both a latch and a bolt in a single unit. It is distinguishable by the proximity of the lock cylinder and a door knob or latchkey. Below are examples of this type of lock.



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 relocking.

PADLOCKS

Padlocks are detachable locking devices having a sliding and pivoting shackle that pass through fixed or removable hardware and then made secure.

CATEGORIES OF PADLOCKS:

For the purpose of size-up and understanding of padlocks, they are placed in three (3) categories:

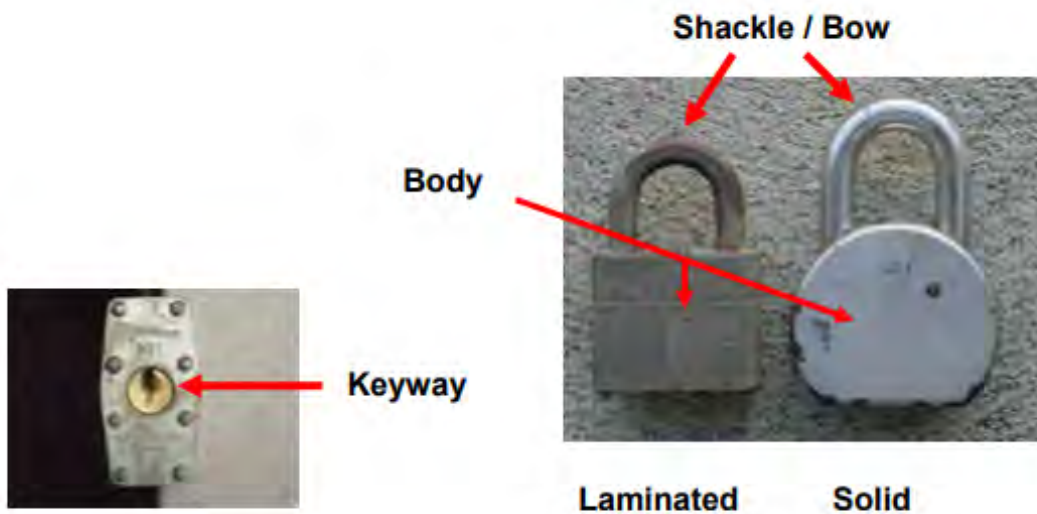
- Light duty.
- Heavy duty.
- Special purpose.

PADLOCK SIZE UP:

- Type of padlock.
- Hardware and installation (attachment device).
- How many padlocks and their location.
- Accessibility.

PARTS OF A PADLOCK:

- Shackle or bow.
- Body, solid or laminated.
- Keyway.



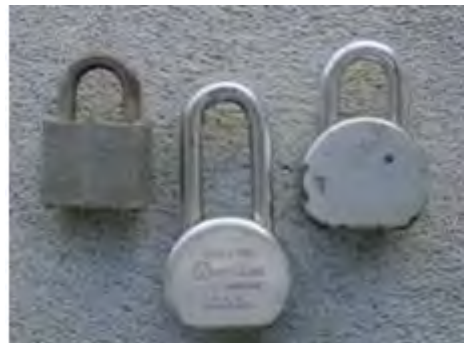
LIGHT DUTY PADLOCK

- Shackle or bow is usually 1/4 inch or less.
- Shackle or bow usually not case-hardened.
- Body of lock, solid or laminated.
- Keyway (type may vary).



HEAVY DUTY PADLOCK

- Shackle or Bow, 1/4 inch and larger.
- Body of lock, solid or laminated.
- Case-hardened steel.
- Toe and heel locking.
- Guarded keyway.



SPECIAL PADLOCKS Hockey Puck / American 2000 Series Round padlock, Master 6271, or Master 736. American 2000 is the most common.

- No exposed shackle.
- Locking device fits over the staple.
- Removable pin.
- May be case-hardened.



Wrapped Lock: Constructed on an individual basis, it is not a commercially sold padlock and will vary in strength.

- Heavy gauge steel welded to the lock.
- Limited access to the keyway.



ASSOCIATED HARDWARE USED WITH PADLOCKS:

Hasps: Manufactured in many different sizes and strengths. They may be in-stalled with screws or bolts, which may be guarded by the hinge while in the locked position.



Slide Bolts- A device that travels in a track, which locks into a recessed hole or hardware. Padlocks pass through rear of bolt and are made 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.



Note: An alternate means of forcing a slide bolt is to place the FORK or PIKE end of the Halligan Tool inside the shackle and twist the entire lock to break the hardware (slide bolt) holding the lock.



FORCING PADLOCKS – Using the Rotary Saw. This should be the primary tool to remove padlocks, hardware and attachment devices. It offers speed and is relatively safer than striking tools.

Exposed Shackle:

- Rotate the padlock to get a cutting position.
- Cut through BOTH SHACKLES AT THE SAME TIME.

If possible, these locks should be held in a stable position before cutting begins. You can accomplish this by clamping a pair of locking pliers (with a chain or a rope attached) to the body of the lock. The chain can then be tensioned so that the lock is in a parallel position and held steady. You can also use the pike end of the halligan to steady locks.



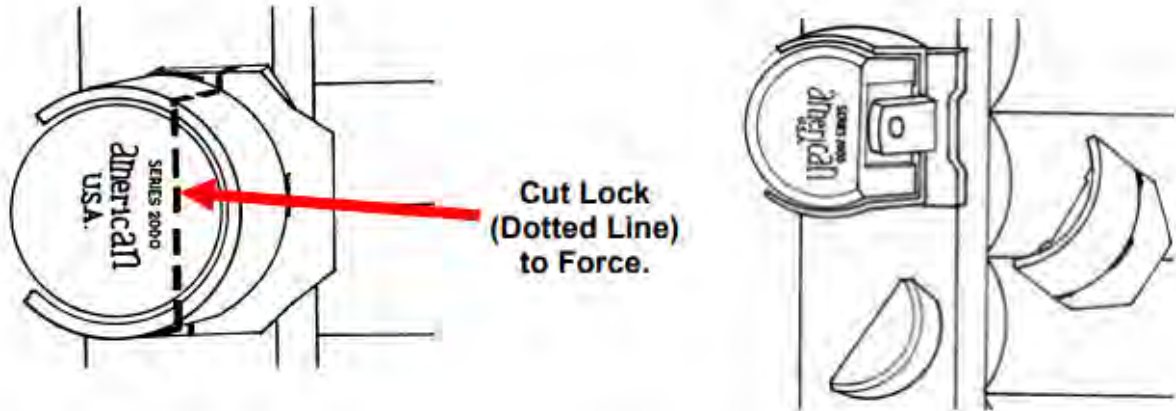
Padlock with Shielded Shackle or a wrapped lock:

- Rotate the padlock; confirm that the shield covers both front and rear of the lock.
- Cut through both shields at same time.
- Apply two vertical cuts through the shackle if accessible.



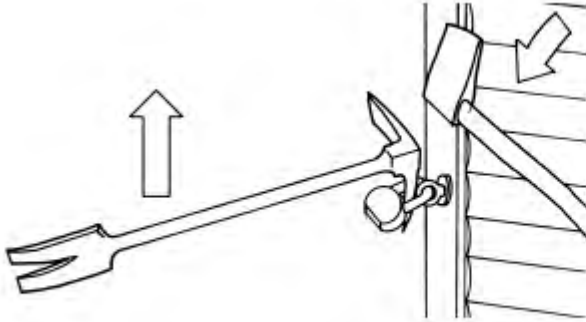
Hockey Puck Lock (American 2000 Series or Master 6271, or Master 736)

Cut through the body of the padlock 3/4 up from the keyway. If lock remains engaged after being cut through, strike the side of the padlock with a sharp blow. This will usually remove the lock. Some of the newer 2000 series have a shielded keyway which must be cut to open the lock.



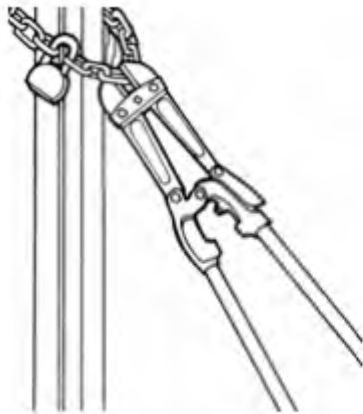
PIKE OF THE HALLIGAN TOOL

- The PIKE of the Halligan Tool may be more effective on padlocks with short shackles.
- Place the pike into the shackle opening, keeping the Halligan Tool as horizontal as possible.
- Maintain pressure on the lock body.
- Deliver sharp blows with a maul or axe.



BOLT CUTTERS: Bolt cutters are excellent for cutting light duty pad locks, light duty chains, cable and hardware. As a last resort they can also be used to cut heavy-duty padlocks, but when used this way, they may damage the jaws of the bolt cutter. If they must be used for a heavy-duty padlock:

- Open the bolt cutter to the maximum.
- Position the bolt cutter so one handle is securely against a substantial object (wall, ground, etc.).
- Push with both hands on handle to cut the hardware. Note: Most heavy-duty padlocks have toe and heel locking. Both sides of the shackle may have to be cut, or twisted to remove the lock.



Cutting the Chain



Cutting the Lock

LOCK (Knox) BOX: This method of security not only protects property, but limits damage to many locks and doors. It is a system of storing all necessary keys to the building or occupancy in a box that is mounted in a high visibility location, usually in the front of the building. Only the local fire department carries the master key, which cannot be duplicated. This approach provides a high degree of security and eliminates the need to carry many individual keys. This has been around for many years. Proper mounting is the responsibility of the property owner. The local fire department should indicate the desired location for mounting. They would inspect the completed installation and place the building keys inside, then lock the box with the department's master key. These keys are carried on the engines, ambulances.



Section 9.3

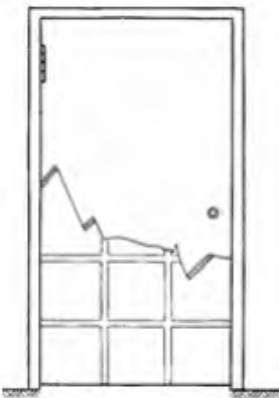
Types of Doors

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.

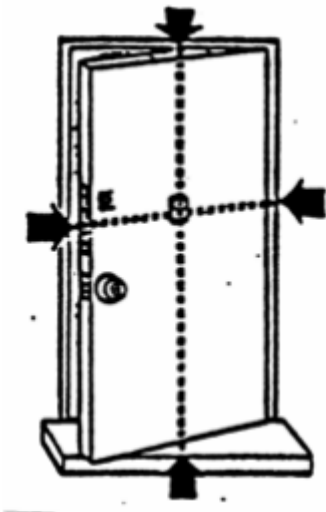


METAL DOOR- Constructed of metal, these doors are usually set in hollow or filled metal doorframes. When set in a masonry wall, as well as a metal frame, they are quite formidable and will hold back considerable fire. Today a metal door is quite common even in private dwellings.

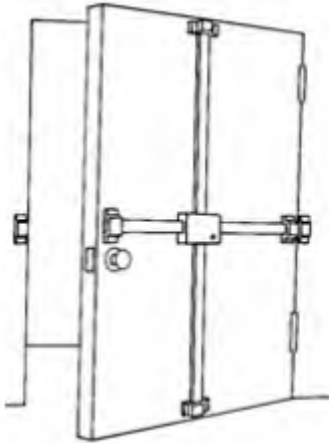




MULTI-LOCK DOOR: One of the most advanced locking systems available that utilizes a key and multiple bolts and keepers. Built into the door, are four rods, which extend out from a keyway toward all four edges of the door. The throw of each rod is approximately an inch into the frame. It is designed to 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.



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.



ROLL-DOWN SECURITY GATES Roll-down security gates are becoming quite common throughout many cities. These gates protect storefronts, factories, warehouse and residential occupancies. They are also used to secure occupancies inside buildings, vacant buildings and roof bulkhead doors in vacant buildings. Adjacent to the opening (window or door) two channel rails are secured to the exterior wall. These are known as the “guide rails.” Above the guide rails is a drum which houses the curtain (interlocking slats of metal or fiber glass). The slats ride up and down in the guide rail covering the opening. The curtain may be raised manually, mechanically (with a chain assist) or through electricity. All roll-down gates are constructed the same, except for the opening mechanism.

FIRE GROUND PROBLEMS Designed for security, they have added to our fire ground problems by:

- Delayed discovery.
- Intense fire upon arrival.
- Extension of fire throughout.
- Very high heat and heavy smoke condition.
- Potential for back draft.
- Ventilation delayed and limited.
- Potential for wall collapse.
- Difficulty in locating the seat of the fire.
- Time consumed in extended forcible entry.
- Need for power saws to gain entry.
- Difficulty in determining the exact entrance door, when numerous gates are present.
- May block entrance to sidewalk cellar door, upper floors and FD Siamese connection.
- Gates may be secured from the inside, and occupants use another exit to leave building or worse yet, lock themselves inside.

TYPES OF GATES:

- Sliding Scissor Gate.

- Manual Roll-Down Gate.

- Mechanical Roll-Down Gate. f Chain Operated and Gear Operated

- Electric Roll-Down Gate.

SLIDING SCISSOR GATE-This is the oldest type of security gate. These are among the first barriers that owners put in place to discourage vandalism and break-ins. Unlike the more common gates we encounter today, these gates slides in a track to open.



Construction Features:

- The bottom track usually picks up and secures the gate in the open position; some pivot ninety degrees to achieve the maximum opening.
- These gates may be secured with numerous padlocks.
- These locks will be located in the center of the opening of the gate cover or off to one side, attached to the frame.

Forcible Entry Operations:

- Locate and remove all padlocks and / or other locking devices.
- Slide the gate manually.
- Lift the bottom track and secure in open position. If possible, rotate gate ninety degrees to achieve maximum opening.

MANUAL ROLL-DOWN GATE-Usually found on the front of smaller occupancies. These gates can cover an entire storefront or just a doorway. Extremely common with storage units.



Construction Features:

- Gates ride up and down a channel rail on each side of the gate.
- The slats may be wider on the older gates.
- The gate is attached to a winding drum.
- At the top of the gate (on larger manual gates), the drum may have a spring counter-balance to assist in the opening.
- The winding drum is concealed behind sheet metal housing or inside the building wall.
- These gates are secured with metal pins that pass through the channel rail and the gate. These pins are secured to the channel rail with a padlock that attaches to a metal clip or staple welded to the channel rail.
- Each gate may be secured with numerous padlocks.
- The manual gate is easily recognized by the absence of a raising mechanism housing on the side of the winding drum (top of the gate).
- Lifting handles are usually attached to the bottom rail of the gate.
- Slide bolts may be attached to bottom rail and may be secured into the channel rail with a padlock.
- The curtain may be constructed of: Inter-locked, solid sheet metal slats. Open grill metal bars, connected with metal tabs. Fiber glass.

Forcible Entry Operations:

- Locate and remove all padlocks and/or other locking devices.
- Pull (slide) all metal pins and slide bolts out. f Most of the padlock points will have a removable pin. f Bottom rail usually has a slide bolt to disengage.
- Raise gate with lift handle or bottom bar.

MECHANICAL ROLL-DOWN GATE (CHAIN HOIST)-All of the same features as the manual gate. These types of gates are generally found on wider openings.



Construction Features:

- Gates ride up and down a channel rail on each side of the gate.
- The slats will be narrower, span a wider opening.
- On gates mounted on the exterior walls of buildings, the chain hangs from a narrow metal housing attached to the side of the winding drum housing. The chain is secured behind a hinged piece of angle iron. The chain is attached to a hold-down device such as a bolt to prevent pulling the chain out from the top of the angle iron. The angle iron is secured to the channel rail with one or more padlocks.
- On gates mounted with the winding drum concealed in the building wall, the chain will not be visible. The chain will be secured in a small access panel on the building wall adjacent to the channel rail. A key operated latch type lock will secure the access panel.
- The hoisting chain is secured behind a piece of angle iron and usually secured with padlocks.
- Each gate may be secured with numerous padlocks and slide bolts similar to the manual gates.
- The gate is usually larger, hence heavier.

Forcible Entry Operations:

- Locate and remove all padlocks and/or other locking devices.
- Pull (slide) all metal pins and slide bolts out.
- Free the chain hoist from its hold-down device and raise the gate with the chain. The angle iron covering the chain hoist is usually hinged and has to be pivoted out and away from the rail to access the chain hoist. If the angle iron is not hinged you may have to pry it open to access the chain.
- If the gate cannot be raised with the chain hoist assemblies, cut the chain near the top and raise it manually.

MECHANICAL ROLL-DOWN GATE (GEAR OPERATED)-All of the same features as the manual gate, this is another version of a mechanical gate. The difference in this gate is in how it is raised. The size of the opening is not necessarily an indication if this version of mechanical gate is present.



Construction Features:

- Same construction features as the other gates.
- These gates are raised by turning a gear assembly with a crank handle.
- The gear assembly will be located at the top of the hoisting drum, in the same area as the chain hoist version.
- This version of mechanical gate will be able to be determined by what appears to be an eye bolt visible at the bottom of the housing assembly, off to one side.

Forcible Entry Operations:

- If the crank handle is not readily available, or housed in the side rail assembly, similar to the chain, cut the gate.

ELECTRIC ROLLDOWN GATE Same basic features as the other types of gates with the exception that it is operated electrically. It can be found in any occupancy, but usually is found on occupancies with large openings such as department stores and commercial buildings. One gate may be used to cover multiple levels of an occupancy.



Construction Features:

- Similar to mechanical roll-down but are usually recognized by a large metal motor housing adjacent to the winding drum.
- There may be a key switch located on the building wall on either side of the gate. This switch may also be located in a remote location inside the building. This key switch panel may contain a stop button; others stop with the switch in the center position of the key switch.
- All electrical operated gates are equipped with an auxiliary chain hoist to be used in case of a power failure. This chain will be located in the motor housing and may not be visible from the outside.
- Either a bottom hatch or a front panel, which is secured with sheet metal screws, may access this chain hoist.
- The chain hoist assembly may have a clutch cable or chain that must be pulled first to engage the assembly to open the gate. This electrical gate has now been converted to a mechanical one.
- These gates may also be secured with padlocks, pins and slide bolts similar to manual and mechanical gates.

Forcible Entry Operations:

- Locate and remove all padlocks and/or other locking devices.
- If power is ON, operate the electric switch to open the gate. This may be possible in the early stages of the fire.

These methods of gaining entry may only work if there is not a large fire or high heat behind the gates. Once the gate is exposed to high temperatures it may begin to distort and jam as it rides up the winding drum.

OPEN-GRILL OR DESIGNER GATE (Variation of a Roll-Down Gate) Same basic design as the other types of roll-down gates. The variation is that sections of the gate, either all or partial, are constructed of small, tubular pieces of metal or metal bars, connected with metal tabs. This type of gate is open so that you may see what is behind it. . This type of gate is generally used where high security is not vital or where the owner wants the public to view the display and also provide some security.



Construction Features:

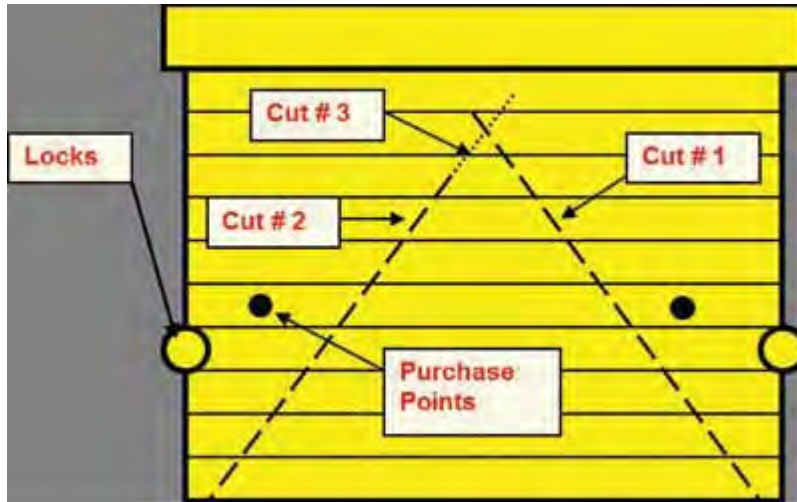
- All the same construction features of the other style gates.
- The curtain may be all or partial of a grid like design.
- Operation of gate will be the same as any other. It can be manually, mechanically or electrically operated.
- Each gate may be secured with numerous padlocks.
- Slide bolts may be present at the bottom.

Forcible Entry Operations:

- Locate and remove all padlocks and /or other locking devices.
- Pull (slide) all metal pins and slide bolts out.
- Operate gate based on the type of design; manual, mechanical or electric.

CUTTING THE ROLL-DOWN CURTAIN There are many ways to cut roll-down security gates to gain access. There are just as many theories to justify these cuts. Each has its own merits but for simplicity, we are showing just a few. Remember, each fire situation will dictate the appropriate cut.

Triangular Cut



This is the quickest and fastest to get water on the fire. The key to this cut is the overlapping of cuts as high as you can get and bringing the cuts down to the ground.

-Advantages:

- Only two cuts.
- Ability to put water on the fire immediately.

-Disadvantages:

- Large pile of cut gate in front of opening.
- Unable to cut all the way to ground.
- The cut can only be made as high as the saw operator's reach.

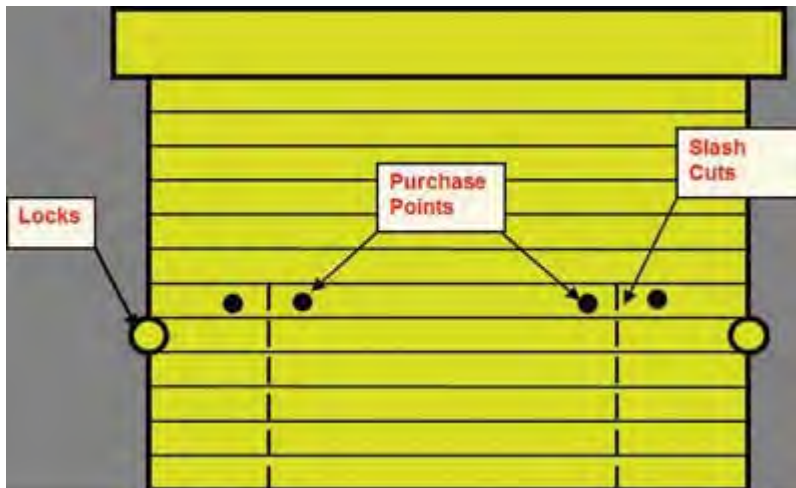
Note: Do not cross cuts at top until the second cut is complete.

Drive Pike of Halligan into slat to remove as shown below.

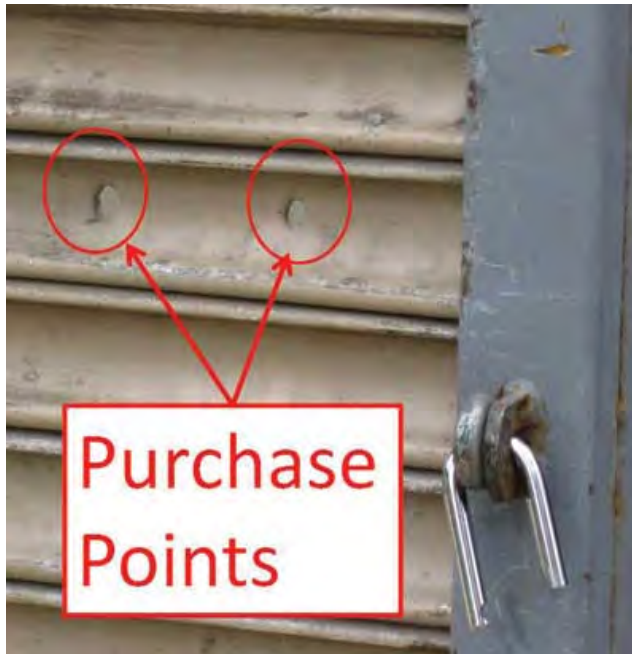


Slash Cut

This operation requires three vertical cuts. The key to this evolution is ensuring the outside cuts are at least a foot away from the guide rail. Again, the cuts have to be made as high as possible and down to the ground. Unlike the triangular cut where gravity brings the cut to the ground, here a couple of slats must be removed manually pulling them from the rail side toward the middle.



Locate the slat just above the locks on both sides of the gate that does not have wind tabs attached to it. With the pike of the halligan bar, make a purchase point approximately one to two feet in from the channel rail. Make another hole six to 12 inches in from the first hole, toward the channel



Repeat this process on the other side of the gate.

With the saw, starting at a point two slats above the slat with the purchase points, make a "slash" cut down between the purchase point holes and through (if possible) the bottom edge of the gate



Repeat this process on the other side of the gate. When these cuts have been completed, the slat above the locks with the purchase points will have been cut into three sections (two side sections and a center section).

Place the pike of the halligan into one of the holes in one of the side sections and pull the slat out of the channel rail toward the center of the gate, guiding it past the center section



Repeat the process on the other side of the gate to remove the other side section. When this is complete, use one of the holes in the center section to pull that section toward one of the channel rails. If necessary, you can drive this section out with a flathead ax while using the halligan bar to guide the section around the channel rail.



Once this section is removed, the section below it will fall to the ground, and the remaining portion of the gate above can be raised up and out of the way. The cut section on the ground can then be removed and cleared out of the way to gain access (photo 20). This is extremely important because the storefront doors that are usually behind these gates typically swing outward, and any remaining portion of the gate that remains after cutting may prevent the doors from opening fully.



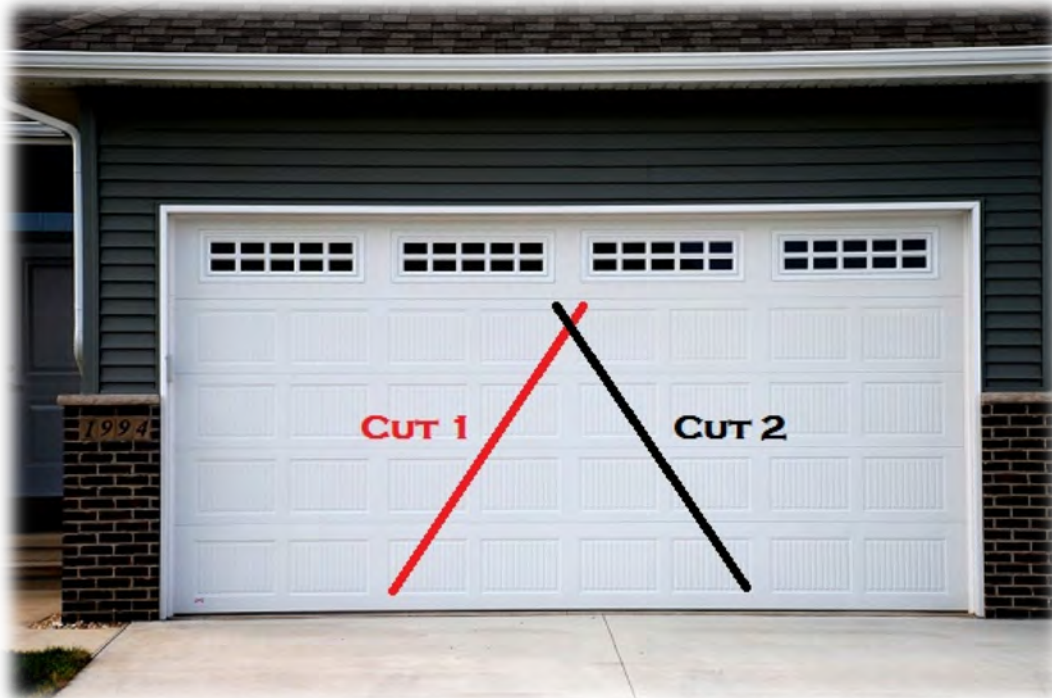
Advantages:

- Less of a pile in front of the opening.
- Can be used on very wide openings.
- If done correctly, the opening will be squared.

Disadvantages:

- Requires more time.
- Requires more than one member.
- Must remove slat above the locking pin.

Forcible Entry Operations- Garage Doors (Residential) When cutting open residential Garage Doors, use the triangle or box cut as shown below. The difference between garage doors and roll down gates is that most garage doors are of thin material (commonly made of tin, plastic, or wood). Unlike the roll down gates, the garage door cutout can be completely removed. Try to cut along the seams of the panels. These cuts should always be made with the rotary saw, and cuts should always be started at the top to allow for the release of heat and smoke. Make and inspection cut if necessary.



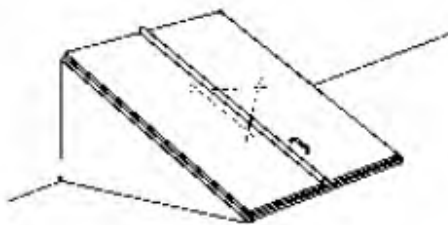


OPEN-GRILLE OR DESIGNER GATE: When faced with the necessity to cut the open grill or designer gate a variation of the box cut would be used as shown below.



Forcible entry through roll-down gates on commercial occupancies is a challenging and labor-intensive operation for firefighters, especially if they are not familiar with the types of gates they encounter or the procedures that can be used to gain entry through them. Go out into your response area after business hours and check out the types of roll-down gates and other security devices out there. Size up the gates you find, and conduct regular drills on the tools and procedures you can use to get through them quickly and efficiently.

ANGLED CELLAR DOORS -These outside entrances are usually angled from the foundation to the ground. They are generally two hinged steel doors opening from the center. Once open, they give access to a stairway which leads to the cellar or basement. They are secured by a sliding bolt from the underside. They may also have exterior padlocks.



ANGLED CELLAR DOORS Forcible Entry:

- Locate the locking slide bolt, usually near the center of the connecting doors.
- Cut through the door just to the side where the two doors meet.
- Pry up the cut piece.
- Locate the sliding bolt and remove it.

LOCKING DEVICES FOUND ON ROLL-DOWN GATES

There are many ways to secure these gates. Having some knowledge as to how the locking devices are installed will aid you in removing them.

- Generally there is some kind of opening made into the channel rail and the curtain. Through this opening a “pin” may be inserted which prevents the curtain from moving up.
- There could also be an “eye” buried into the sidewalk to secure the bottom rail.



Steps for Removal:

- Cut or open padlock and remove.
- Remove PIN.
- Raise curtain.

GATE LOCK (Bolt Lock)

Another popular device for securing roll-down security gates, fire doors, counter doors and shutters.

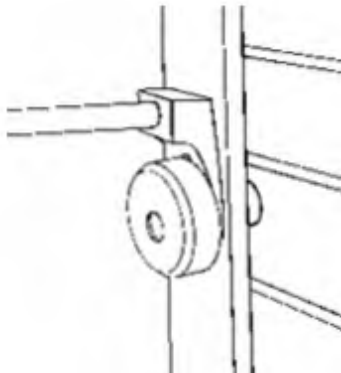


Features:

- No hasps.
- No shackle.
- No pin.
- Resists cutting, drilling.
- Pick Proof.

Forcible Entry

Go for the weakest point of this lock, which is the brass pin which rotates the cam. One way to force this device is to apply pressure outward and try to snap the brass pin.



Note: With many of these locks being covered (shielded) with steel, another method would be to try and cut the body of the lock on an angle between the rail and curtain.



EXTERNAL SHIELDS

Most any type of padlock can be found with an external shield. They are used to protect the padlock and to make forcible entry more difficult.

Types of Shielding For Padlocks:

- Wrapped shield welded to padlock.
- Fixed shield to padlock attachment point.
- Removable shield.
- Welded box.



Forcible Entry Operations:

- Utilizing the Power Saw, cut through the shield and lock.
- Cut the gate.

Section 9.4

HINGES

TYPES: There are many types of hinges used today. The types we discuss will be known as:

- Standard
- Self-Closing
- Pin Type

• STANDARD HINGES:

Most common type found in residential occupancies. May find two or three mounted on a door. The center pin connects the two pieces of the hinge.

**• SELF CLOSING HINGE:**

This hinge is more common in commercial type occupancies. It is a sealed, spring-loaded hinge. These may also be mounted in sets of two or three to a door.

**• PIN TYPE HINGE:**

As a rule these hinges are mounted on the exterior of Commercial Occupancies. The "Pin" is secured to the frame and the hinge is secured to the shutter or door.



- Forcing a door at the hinge side **SHOULD NOT** be a primary means of gaining entry.
- Once a door is forced in this manner you will “lose the integrity” of the door.
- The **PRIMARY** means of gaining entry should be on the **LOCK** side.
- Forcing a door at the hinge side should only be done when **ALL** other means of gaining entry on the lock side have failed.

STANDARD HINGE – INWARD OPENING DOOR (Door swings away from you)

Some suggested means of gaining entry:

- Force the door to expose the hinge, using the Halligan, then work directly on the hinge.
- Create a gap and use either the **ADZ** or **FORK** end of the Halligan.
- Place end of tool just below the hinge. **ADZ** end apply force either up or down. **FORK** end apply force either toward or away from the door.
- Using the **PIKE** end, as a fulcrum, separate the hinge from the frame.
- “**Batter the door**” at the hinge. With the back of the axe, maul or Halligan Tool, strike the solid part of the door adjacent to the hinge.
- Hydraulic tool would be used the same as if you were forcing a door on the lock side, only place the tool on the hinge side.



Adz End



Fork End



Pike End



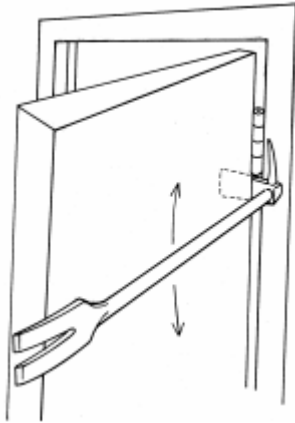
Batter the Door



Hydraulic Tool

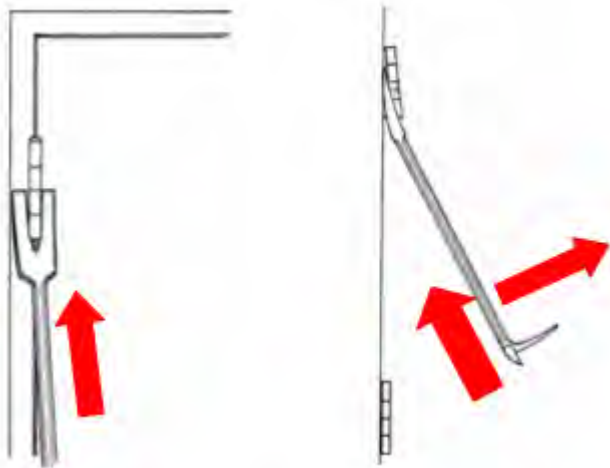
STANDARD HINGE

Removing a Door:



- With the door partially open, slip the ADZ between the door and the frame just below the hinge; then pry up or down. Note: ALWAYS attack the UPPER hinge FIRST so that smoke and heat will rise while completing the entry on the bottom of the door. Be aware, many doors now have three hinges.

STANDARD HINGE – OUTWARD OPENING DOOR (Door swings toward you)



Some suggested means of gaining entry:

- Place the FORK end of Halligan Tool over the exposed hinge and pry up or down.
- On stronger hinges drive the Halligan over the hinge and twist side to side to break or loosen the mounting screws, then pull out.
- Remove the pin if possible to separate the hinge.

Note: ALWAYS attack the UPPER hinge FIRST so that smoke and heat will rise while completing the entry on the bottom of the door. Be aware, many doors now have three hinges.

Technique Tip: For a Bulkhead door, keep the door between you and the opening to protect from heat and or flames, which may come out.

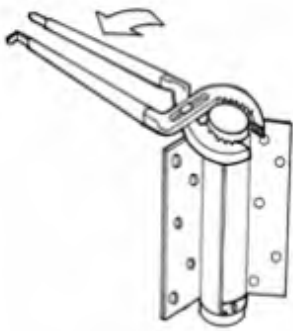
SELF-CLOSING HINGES

These hinges may be found anywhere, but are very often found on bulkhead doors. They usually have a threaded rod with two cap nuts, which can be easily unscrewed with a pair of channel locks or a snap-on cap, which may be pried off.

Some suggested ways to force these hinges are:

Method 1:

- Unscrew or snap off, the top cap and tap the threaded pin down.



- Pull the bottom cap and pin down and out.



Method 2:

- Drive the ADZ or the FORK of the Halligan Tool into the body of the hinge between both sections, splitting the hinge into two pieces.
- Pull up or push down with the Halligan Tool.



Method 3:

- Cut the hinges with the forcible entry saw.



Note: ALWAYS attack the UPPER hinge FIRST.

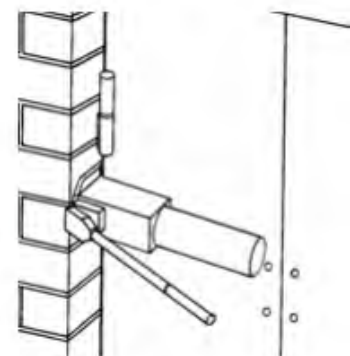
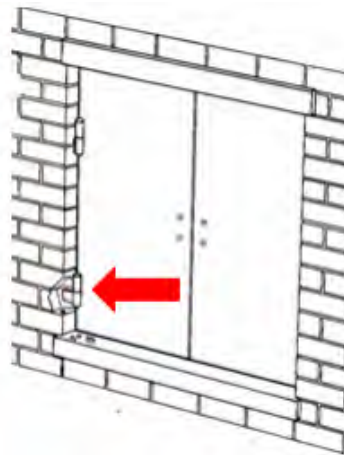
Technique Tip: For a bulkhead door, keep the door between you and the opening to protect from heat and or flames which may come out.

PIN HINGES

These types of hinges are usually found on shutters. They can also be found on commercial buildings and places of public assembly. The “pin” is attached to the window frame or doorframe, and the shutter or door holds the corresponding hinge.

Some suggested means of forcing entry:

- Use the power saw to cut the hinge.
- Breaking the anchor point where the hinge is set by using the back of the axe, maul or Halligan.
- Prying the hinge with the hydraulic tool.



Note: Be aware of possible venting smoke and or fire.

Section 9.5

CONVENTIONAL FORCIBLE ENTRY

Conventional forcible entry is the oldest and most versatile method of entry. Usually a two-man team, using a flat head axe and the Halligan Tool accomplishes this task. It requires skill and technique to master, and at times this may have to be done by one man. When forcible entry is required, it should be started immediately. A door should be forced in such a manner as to preserve its integrity. If speed is an important consideration in gaining entry, then conventional forcible entry should be considered. Once a firefighter has mastered the skill of using the axe and Halligan Tool (Irons), most doors, even those that are well secured can be forced quickly. With the combination of the axe and Halligan, the forcible entry team can generally force any door or occupancy. It is a simple matter of technique and leverage.

ENTRY SIZE-UP

The fire ground is a very stressful place to work in. This is especially true for the first arriving units who have to accomplish a variety of tasks immediately. Among them is making a correct entry size-up. Prior to forcing a door: The Forcible Entry Team should: **TRY THE DOOR** to determine **"IS THE DOOR LOCKED?"** Too many times over-aggressive firefighters have forced an unlocked door. They should take note of the Type of Door and the Locking Devices involved. Also, what are the Prevailing Conditions at the scene, such as heat, smoke and visibility? They should then feel the door and or the doorknob. This may give an indication of the amount of heat behind the door. Finally, **Check For Resistance**; push in at top, center and bottom of door. This may give you an idea as to where the locking devices are secured.

The recommended steps for forcing a door are: **GAP – SET – FORCE.**

FORCING INWARD OPENING DOORS (door swings away from you)

1. GAP the DOOR - This step will make an opening in the door and/or frame to create a purchase point. It may also force open a poorly secured door.

- Work the ADZ into the stop on the doorframe approximately 6 inches above or below the lock (see “Note” below). The tool can be set into the frame by swinging like a bat and driving the ADZ into the frame.
- If there are 2 locks close together, go between them (unless they are stacked locks).
- Push up or down on the Halligan Tool causing the ADZ to rotate and crease the door. Best purchase is gained when the ADZ end is used on the door, not the pike.



Note: The reason for the 6-inch rule is to avoid the Halligan Tool from striking the lock. The fork of the Halligan Tool is approximately 3-inches wide and most lock bodies are also 3-inches wide.

Technique Tip: You will lose power when pushing down if the pike hits the door. You will increase spread by moving the tool up.

2. SET THE TOOL - This step requires the most skill. This involves working the **FORK** of the Halligan Tool into the Gap to spread the door away from the frame. The Halligan Tool is considered “Set” when the FORK is “locked in” to the inside of the doorframe.

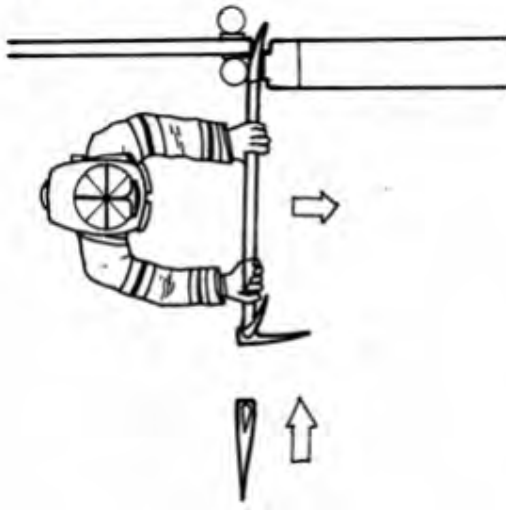
- Position the Halligan FORK approximately six inches above or below the lock cylinder. If the tool is too close, the FORK may hit the lock and will not go through to “lock in.” If it is too far away, the door may flex and the lock will not fail.
- Place the FORK of the Halligan, (Bevel to the Door) and angle the Halligan Tool to work around the doorstop. This is considered the ideal position since it produces the most spread of the door and frame and puts the most stress on the locking device. It is important for the member holding the Halligan Tool to “walk the tool” around the doorstop and frame.
- This method gives a greater range of motion to the Halligan Tool since the adz will be facing away from the door and not strike the door when the door is forced.
- It also offers a better striking position. The Halligan Tool will stand out at approximately 90 degrees to the door allowing the member with the axe more room to maneuver and deliver the necessary blows.



Note: When there are multiple locks closely spaced on the door (stacked locks), position the tool above the upper lock or below the lower lock. Remember the six-inch rule is a general rule and should allow the FORK to clear the inside to the lock.

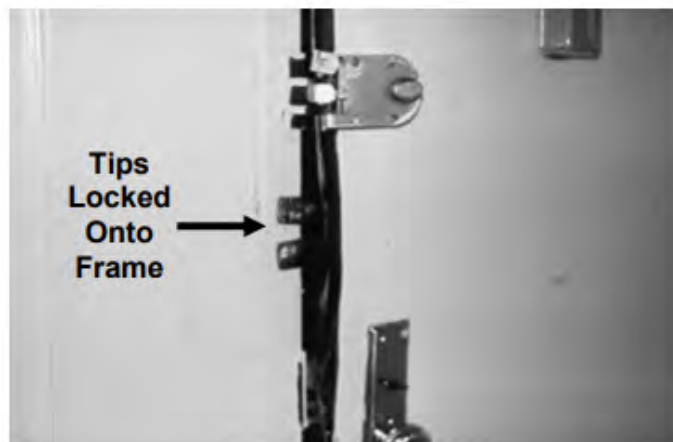
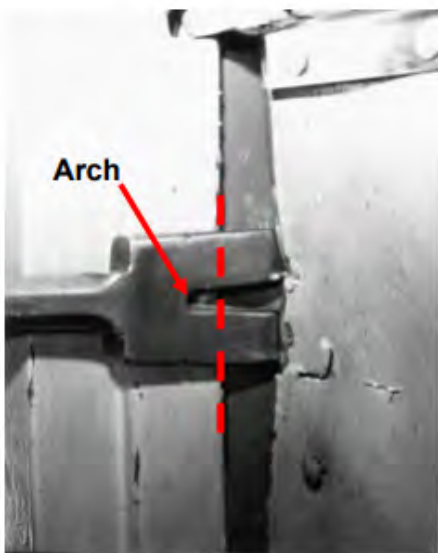
- The forcible entry firefighter should be between the door and the tool. Generally the forcible entry member should have his shoulder in contact with the door. This position gives a good view of the area where the tool is being driven in and also gives full range of motion for the tool as it is pushed away from the door as it is being driven in.
- The forcible entry firefighter should keep his eyes on the FORK end of the Halligan Tool where it is being driven into the Gap.
- Keep moving the Halligan Tool away from the door as it is being driven in (struck).

SET THE TOOL



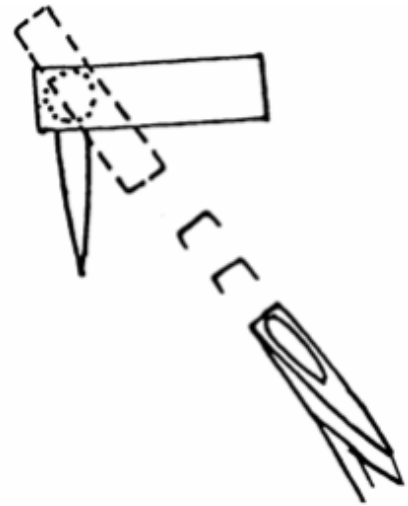
Technique Tip: As soon as the tip of the fork is past the edge of the door, sharply push the tool away from the door. “Spring” the door away from the frame and maintain pressure on the tool to prevent the tips from striking the frame.

- When the Halligan is nearly perpendicular to the door, drive in forcefully. The FORK end of the tool is driven past the inside of the frame. This will insure the tool being “locked” into position and not slipping when pressure is applied.
- The tool is SET when the ARCH of the FORK is even with the inside edge of the door / doorstop.



STRIKING THE HALLIGAN TOOL - Coordination and communication must be maintained between the members of the forcible entry team.

- The member holding the Halligan Tool (forcible entry firefighter) controls the operation.
- The member with the axe strikes the Halligan Tool **PERPENDICULAR TO THE ADZ**.
- The member with the axe may have to stand, crouch or kneel to obtain the best position.
- The member with the axe strikes the Halligan only when told.
- The commands "HIT" and "STOP" must be understood.



TO MAINTAIN CONTROL

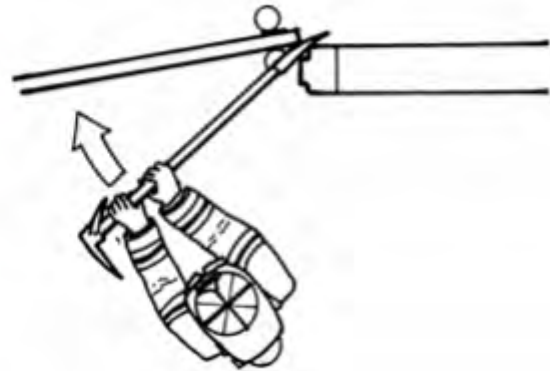
- Short chopping blows.
- Perpendicular to the adz.
- In line with the shaft.

Note: As the tool is SET, more powerful blows can be delivered.

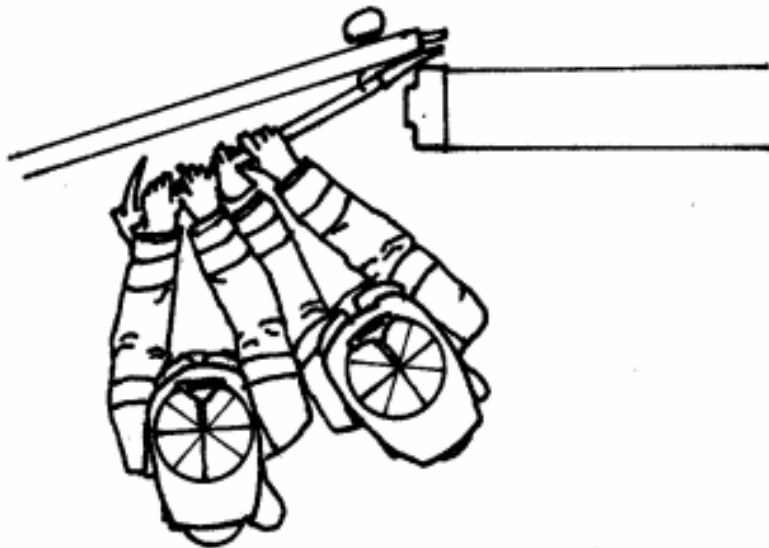


3. FORCE - When the Halligan Tool is set, force is applied to the tool creating leverage against the door.

- Forcible entry member changes position to face the Door. This gives him better position to apply pressure.
- Ensures everyone is ready.
- The other member of the team should try to control the sudden opening of the door by holding onto the doorknob or applying a hose strap to the knob.



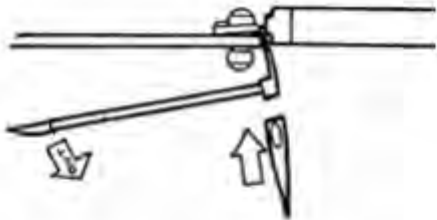
- Push in sharply to create maximum force.
- If strong resistance is met, a second firefighter may be used to assist.
- As the door opens, the second firefighter must MAINTAIN CONTROL OF THE DOOR.



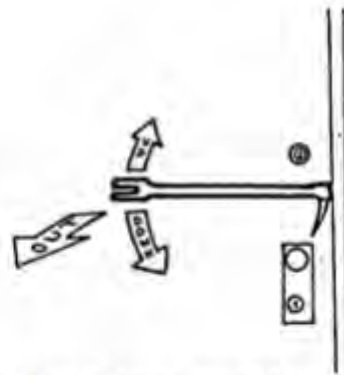
Note: In the above method, as the door is flexed from the pressure, note the presence of fire behind the door. If fire is present, make sure there is a charged line in position to protect the forcible entry team.

FORCING OUTWARD OPENING DOORS (Door swings toward you) Using the Adz End

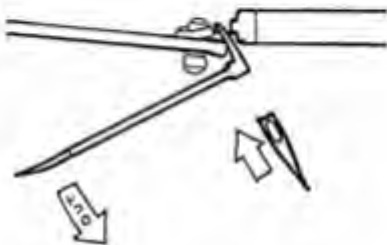
- Place the ADZ between the door and the frame.
- **GAP** the door by rocking the tool up and down to spread the door from the frame.
- **SET** the tool, and pry the door out by pulling on the Halligan so the ADZ can be driven in. Be careful not to “bury the tool” into the doorstop.
- **Force** the door, set the ADZ end around the inside of the door.



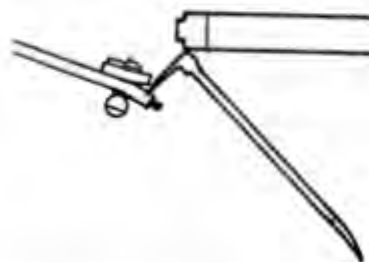
Gapping The Door (Top View)



Gapping The Door (Front View)



Set The Tool (Top View)



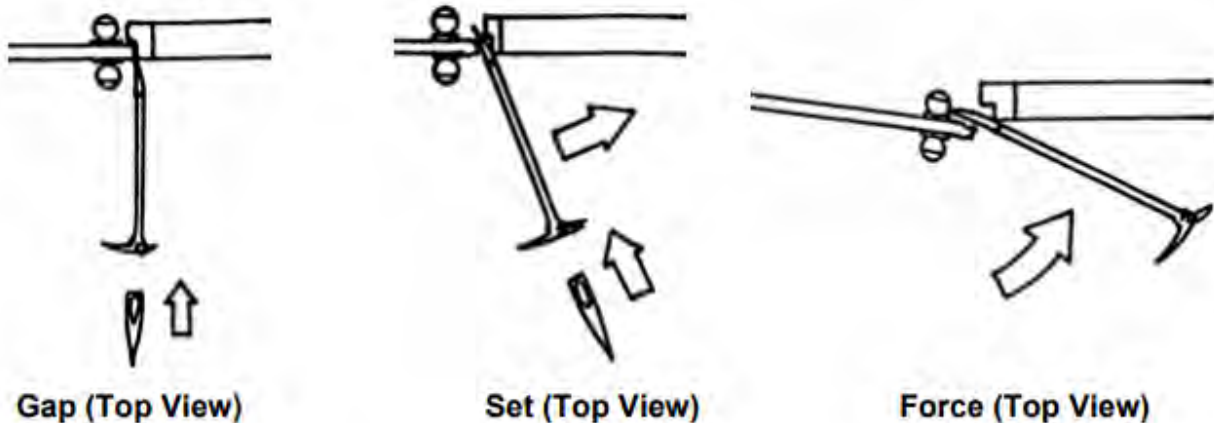
Force The Door (Top View)

Note: The firefighter faces the door at all times.

FORCING OUTWARD OPENING DOORS (Door swings toward you)

Using the Fork End

- **GAP** the door by placing the bevel side of the FORK toward the frame, just above or below the lock or hinge.
- **SET** the tool, pry the door by pulling out on the Halligan so the FORK can be driven in past the inside frame. Be careful not to “bury the tool” into the doorstop.
- **FORCE** the door, set the FORK end around the inside of the door and by pulling or pushing the Halligan Tool away from the door (toward the wall).
- In order to use this method, the Halligan Tool must have sufficient room to allow the movement of the tool away from the door



Note: These methods will be dictated by the configuration of the building or any obstructions near the door.

PROBLEMS ENCOUNTERED WHEN FORCING OUTWARD OPENING DOORS

Problem: RECESSED DOOR OR OBSTRUCTION

Solution:

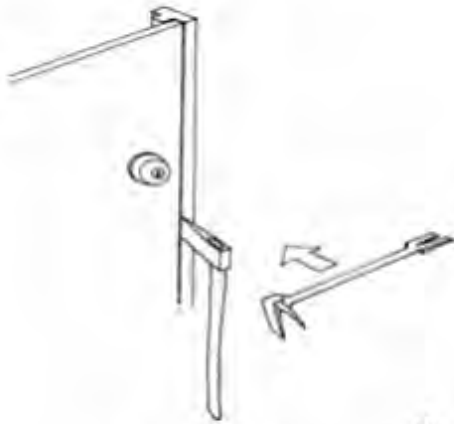
- To allow the ADZ to be driven in and around the door stop and to provide sufficient space for the ADZ to move away from the door. f Make a hole in the wall (if possible), for the movement of the tool. f **GAP** – **SET** – **FORCE** the door.



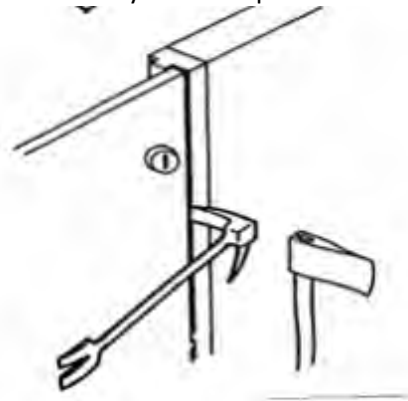
Problem: DIFFICULTY GETTING A PURCHASE (Tight Seam between Door and Frame)

Solution:

- Use the Blade of the axe.
- Use the Fork or Adz end of the Halligan. Tilting the Adz up or down may start the purchase easier.



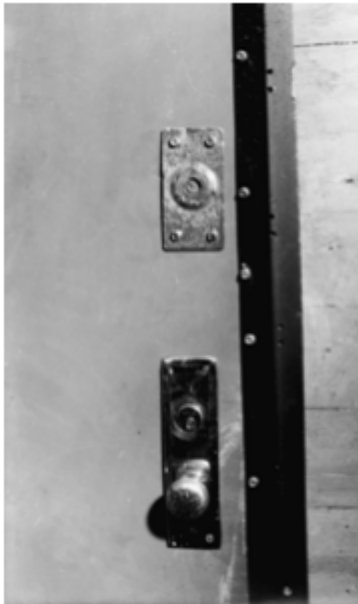
Blade of Axe



Adz of Halligan

METAL STRIP ON THE EDGE OF THE OUTWARD OPENING DOOR

Additional security may be installed on these doors by bolting a metal shield to protect the space between the door and the frame. It may be a full-length or partial shield. Dealing with the shield will require an additional step before proceeding to Gap – Set – Force.



METAL STRIP ON THE EDGE OF THE OUTWARD OPENING DOOR

- Drive the ADZ end under the edge of the metal strip and push the tool toward the door. Work the ADZ between the door and the frame, and drive in to establish a gap.



- Drive the FORK end under the edge of the metal strip and push the tool back toward the door.
- Work the FORK between the door and frame.



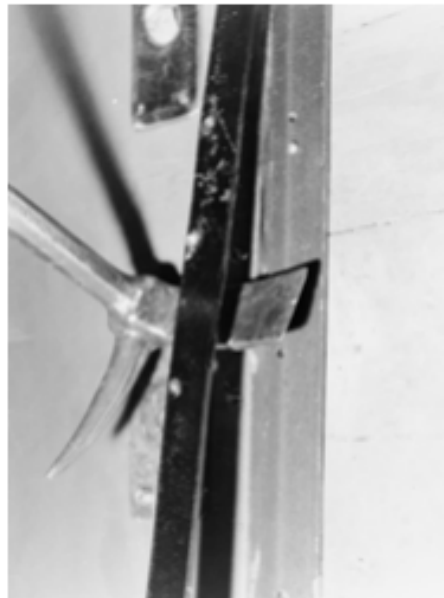
Reverse the tool if necessary.

METAL STRIP ON THE EDGE OF THE OUTWARD OPENING DOOR

- Drive the ADZ end between the door and shield, bending the shield away to allow entry of the Halligan Tool.



- Shear the bolts and pry, bend or remove the shield as a last resort.



Note: At times if the angle iron is secured well, it may assist you in opening the door. If not, then you have to remove it to access the door.

Section 9.6

Hydraulic Forcible Entry

These tools are designed for doors that open inward (away from you), and have also been used successfully on sliding elevator doors. They work best on doors with strong metal frames.

RECOMMENDED STEPS FOR FORCING A DOOR

- **GAP THE DOOR** – Using the ADZ end.
- **SET THE TOOL** - Insert the jaws between the door and the frame midway between the knob and the lock; the jaws must be in the closed position.
- **FORCE THE DOOR** - The door should open with several pumps of the handle.

**Gap****Set****Force**

Note: When there are multiple locks, insert the jaws between the knob and lock and then move to the proximity of the next lock.

THE DOOR DOES NOT OPEN DURING THE INITIAL OPERATION

Problem: TOOL IS FULLY EXTENDED AND THE DOOR STILL DOES NOT OPEN

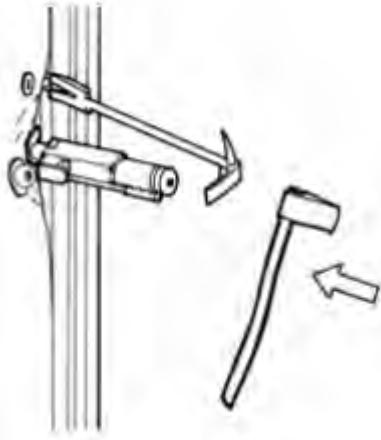
Solution: Reposition Tool on the Lock

- Locate the locking device.
- Wedge the door open with the head of the axe or the Halligan Tool.
- Reposition the hydraulic tool directly on the lock and extend.



Solution: Drive Lock off The Door

- Maintain the opening with the hydraulic tool.
- Drive the lock off the door with the axe and Halligan Tool.



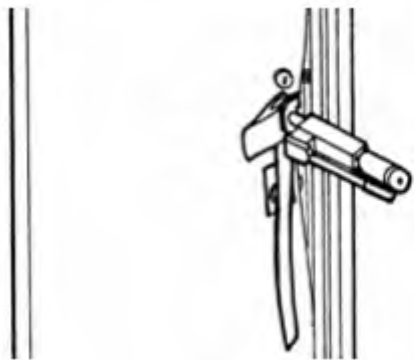
Drive Lock Off

THE DOOR DOES NOT OPEN DURING THE INITIAL OPERATION

Problem: DOOR NEARLY FORCED BUT NEEDS A LITTLE MORE

Solution: Use Head of the Axe to Extend the Spread

- Maintain the purchase with the Halligan Tool.
- Place the head of the axe between the door and the jaw and extend.

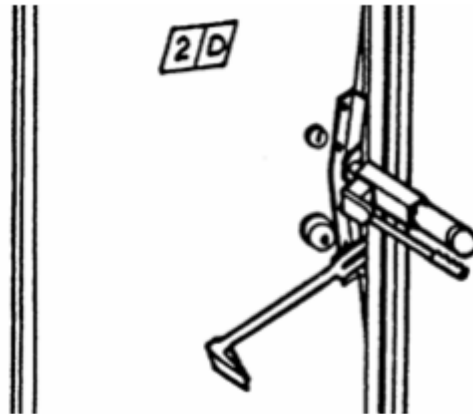


ANGLE IRON INWARD OPENING DOOR (Door swings away from you)

- Usually bolted to the door, may be partial or full length.
- The angle iron may be flat stock or shielded (interlocked with “J Channel”). Partial Angle Iron
- GAP the door by placing hydraulic tool above or below angle iron and open to full extension.
- Maintain this purchase with the axe or Halligan Tool.
- Reposition the hydraulic tool between the door stop and the edge of the angle iron (on the angle iron).

Full Length Angle Iron

- GAP the door by driving the FORK end of the Halligan Tool between the angle iron and the frame, pushing the Halligan towards the door.
- Reposition the hydraulic tool on the angle iron and extend.



MAGNETIC LOCK -The doors these type locks are installed on are usually outward opening type doors. This is an exception to the use of the hydraulic forcible entry tool, which is primarily designed for inward type opening doors.

Procedure for Forcing Magnetic Lock

- Place Halligan Tool through the door handle with ADZ end toward you.
- Place the jaw of the hydraulic tool behind the ADZ end of the Halligan Tool.
- Pump the tool using the doorframe as the base and “pull” the door away from the magnetic lock.



Note: The Hydra-Ram tool has enough power to overcome the force of the magnetic lock.

Section 9.7

Thru the Lock Forcible Entry

The “Thru-the-Lock” approach is a means of gaining entry by attacking the locking device and opening the door with little or no damage to the door or frame. This is a professional method of entry and serves as a good public relations tool.

Size-Up

Size-up is an important function that is performed, for all operations, on the fireground. It is critical that a proper size-up is done before we begin our forcible entry operation. Though it is impossible to know for sure what type of lock is securing the occupancy by looking at a solid door from the outside, we can make an educated guess based on:

- Type of occupancy.
- Type of door.
- Location of the lock cylinder(s).
- Direction the door moves (inward or outward).
- What we see on the door (other than the locks).
- Anything unusual (lock cylinders out of line).
- Knowledge of the type of lock.
- Let the fire condition dictate your method of entry.

Combine all of this information with past experience and proceed in attacking the lock, not the door. We need to understand that only practice will make us more proficient in our operation, so we must use every opportunity.

Note: The cheaper the lock, the more difficult it may be to force. Cheaper locks have a tendency to break up causing delays, and/or requiring alternative means of pulling the cylinder.

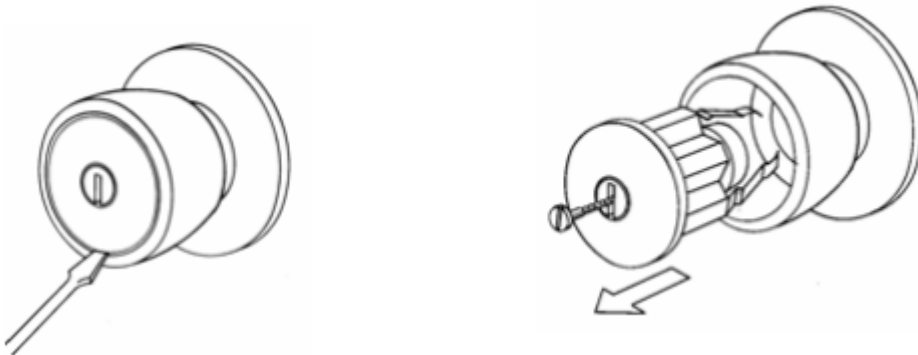
KEY-IN-THE-KNOB LOCK -As the name implies, the locking mechanism is part of the knob. These devices are found on both inward and outward swinging doors. The spring latch on the majority of these locks enters the striker approximately 1/2 inch.

FORCING THE KEY-IN-THE-KNOB LOCK - Using the Officer’s Tool The doorknob can be removed simply and quickly with the Officer’s Tool, without damaging the stem assembly.

- If the door is hollow, an axe can be placed behind the tool to give the fulcrum a substantial base to pivot off. After the doorknob is removed, insert the stem of the Key Tool into the slot (if present) or into the back of the spring latch and pull or twist toward the hinge side of the door to activate the latch.



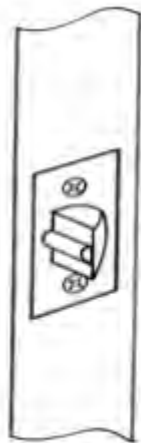
FORCING THE KEY-IN-THE-KNOB LOCK – Removing the Center of the Knob There are some locks where the center of the knob can be removed (example, Kwikset type lock) with a knife-like tool or slotted screw driver.



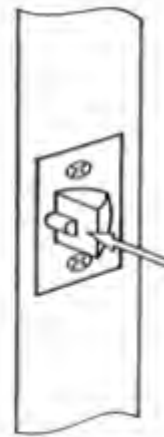
Outward Swinging Doors Key-in-the-Knob locks on outward swinging doors have a simple spring latch which can be slipped back (opened) with a flat tool such as a **Shove Tool/ Shove Knife**.



At times there is a simple device known as **anti-loitering pin**, which may be added to the latch. This pin prevents the insertion of the shove tool without moving this pin first.



Pin Engaged



Pin Pushed Back

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. These locks may be recognized by their position on the door and/or the size and shape of the cylinder.

These locks have become more sophisticated as the demand for greater security has increased. They may have a hardened steel rod through the center of the locking bolt. The length of the bolt has been increased to the point that it may take two full rotations of the key to remove the bolt from the keeper. The lock face is usually held in place by a hardened steel mounting. The cylinder is either too deep or too wide, which prevents the K-Tool from being used. In order to use the Thru-the-Lock method, the cylinder needs to be removed to enable the use of a Key Tool to trip the lock. If the K-Tool is unable to remove the cylinder, then an alternate method of removal would be needed in order to use this method. If the cylinder is unable to be removed then you will have to resort to conventional forcible entry methods to force the lock. The stem of the tubular deadbolt, which retracts the locking bolt, can be various shapes.

FORCING THE TUBULAR DEAD BOLT

- Remove the cylinder by pulling it out with the Officer’s Tool/ A-Tool, K-Tool or Halligan.
- Insert Key Tool.
- Rotate to open.



Technique Tip: Place the A-Tool at an angle to start the operation.

Note: Using the Officer’s Tool would be the preferred method on most of these locks due to its ability to get a better bite behind the cylinder.

Problems Encountered When Using the K-Tool



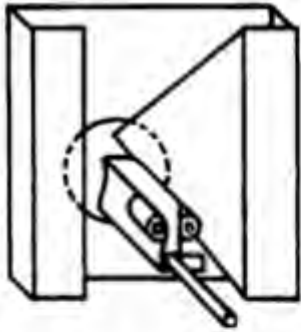
Cylinder Too Deep



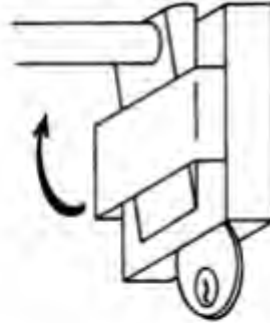
Cylinder Too Wide

FORCING a RIM LOCK- using a Lock Puller (Officer's Tool / K-Tool)

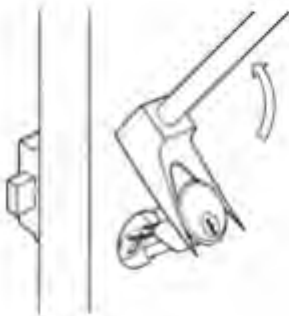
- Set the lock puller behind the cylinder getting a secure purchase.
- Pry up on the lock puller, pulling the cylinder from the door.
- The back plate is either pulled through the opening or the set screws are ripped from the back plate.
- Insert correct "Key Tool" and turn, unlocking the lock.



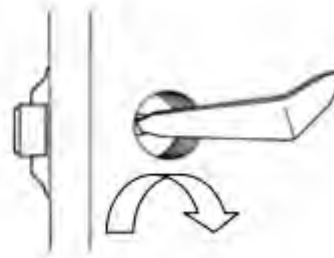
Set the Tool



Pry the Cylinder Up



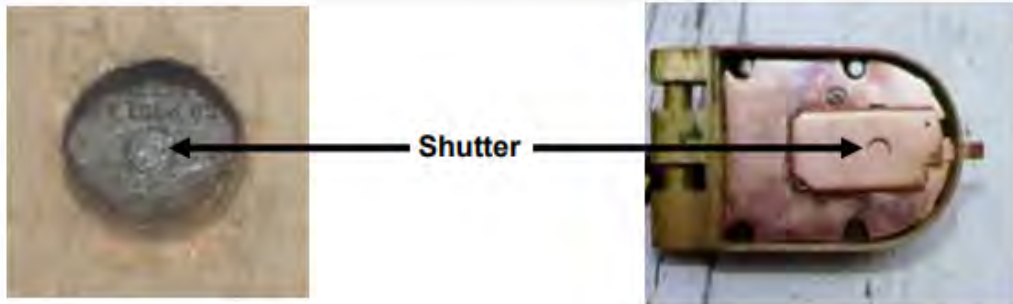
Back Plate Pulled Through



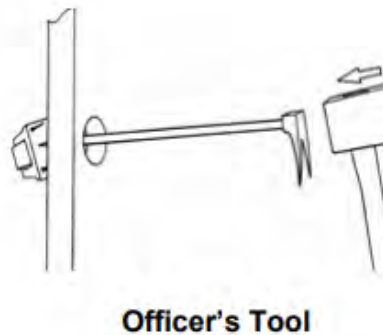
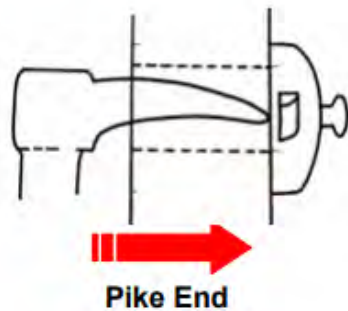
Turn Key Tool

Note: The cylinder is held in place by two set screws through a back plate. It is the back plate being pulled through the cylinder hole that determines the difficulty.

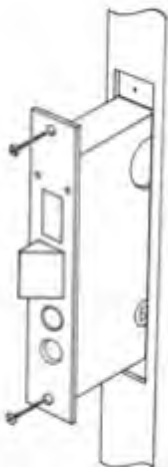
On some rim locks, a “shutter” may be installed over the lock mechanism. This will prevent the insertion of a Key Tool. You may have to drive the lock off the door with the tool inserted in the cylinder hole.



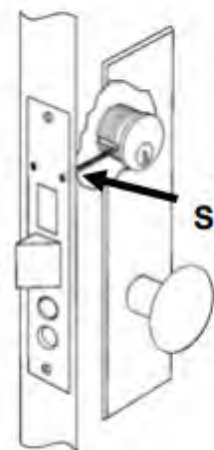
Driving Off the Lock



MORTISE LOCKS- Are designed and manufactured to fit into a cavity in the edge of the door (either metal or solid wood). They have a solid, threaded key cylinder which is held in place by two set-screws. There are various types and styles of these locks available today. A deadbolt and latch is a mortise type lock that contains both a latch and a bolt in one unit.

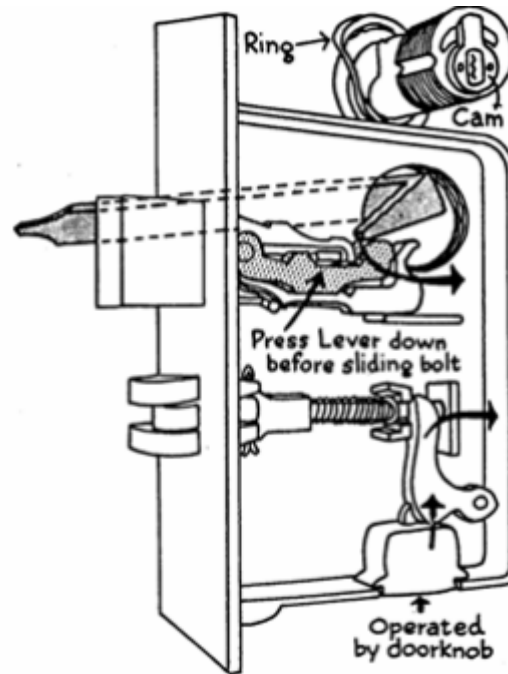


Mortise Lock



Set-Screws

PRINCIPLE OF OPERATION – MORTISE LOCKS-As the key is rotated in the cylinder; it turns a cam on the back of the cylinder. This cam makes contact with a lever inside the lock box removing it from the strike. Although the key will cause the cam to make a complete revolution, the actual work of opening the bolt is usually accomplished between 5 and 7 o'clock or 7 and 5 o'clock of that revolution depending on which side (right or left) of the door the lock is mounted.



FORCING THE MORTISE LOCK:

- Set the K-Tool firmly on the cylinder and remove the cylinder by pulling up.
- Insert the correct Key Tool.
- Rotate the Key Tool. If the mechanism is found at 5 o'clock, rotate toward 7 o'clock, if found at 7 o'clock, rotate toward 5 o'clock.
- If mounted with a doorknob, it may have a latch that may be connected to a second assembly. This may necessitate a second revolution of the cam to remove the cam from the keeper.

Note: This second revolution may start a little higher in the opening, e.g. 9 o'clock or 3 o'clock.

Note: Once you have pulled the lock cylinder be sure to use the proper end of the Key Tool.



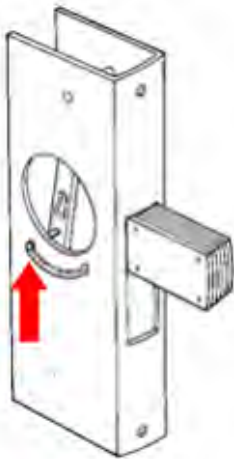
Lock Cylinder Removed



Proper Key Tool

PIVOTING DEADBOLT This popular lock is usually found on aluminum and glass panel doors with narrow stiles. It is also found on solid glass (tempered glass) doors with the frame on the top and bottom edges only. Generally these are commercial occupancies.

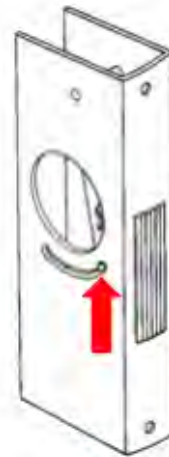
PRINCIPLE OF OPERATION – PIVOTING DEADBOLT these particular locks usually have a laminated bolt, which may extend up to 1-3/4 inches. The tripping mechanism is slightly different than other mortise locks, which requires the correct Key Tool to be used to depress the locking pin, which rotates the dead bolt. The pivoting bolt allows forward throw to be the entire depth of the frame channel.



**Pin Away
Door Locked**



**Bolt Pivots
Into Frame**



**Pin Forward
Door Unlocked**

The above is a narrow stile, pivoting deadbolt showing the 1¼ inch laminated bolt. The locking pin is AWAY from the leading edge of the door. The door is locked when the pin is in this direction. As it is depressed the bolt “pivots” into the frame. When the locking pin is FORWARD, the bolt is inside the frame and the door is unlocked.

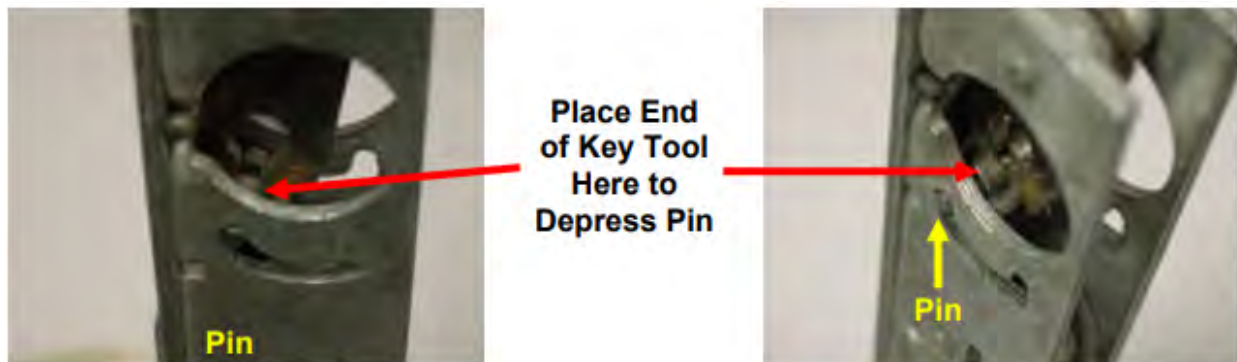
FORCING THE PIVOTING DEADBOLT - Using The K-Tool This particular device is virtually impossible to force conventionally (axe and Halligan) without breaking the glass insert and/or destroying the door and/or the frame because of the long throw of the DEADBOLT (up to 1 3/4 inches). Pulling this cylinder is usually no problem for the "K -Tool" (it was designed for this lock). These cylinders rarely break apart.

FORCING THE PIVOTING DEADBOLT - Using the K-Tool

- Place the K-Tool over the cylinder and set by driving down over the face of the cylinder to lock onto the cylinder.
- Pry UP with the ADZ end of the Halligan, removing the cylinder.
- Using the bent end of the Key Tool, DEPRESS the pin and SLIDE the pin forward, pivoting the deadbolt down into the housing.
- As the locking pin slides forward, the bolt is retracted, unlocking the door.

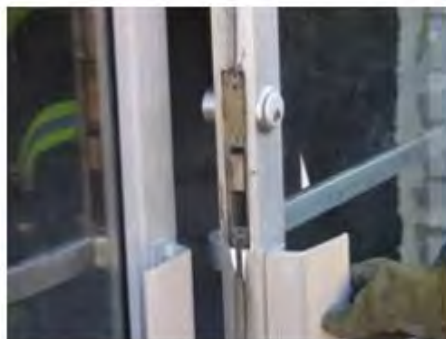


Note: The pin will be located at either the 5 o'clock or the 7 o'clock position. Move the pin from 5 o'clock to 7 o'clock or from 7 o'clock to 5 o'clock to retract the bolt, unlocking the door.

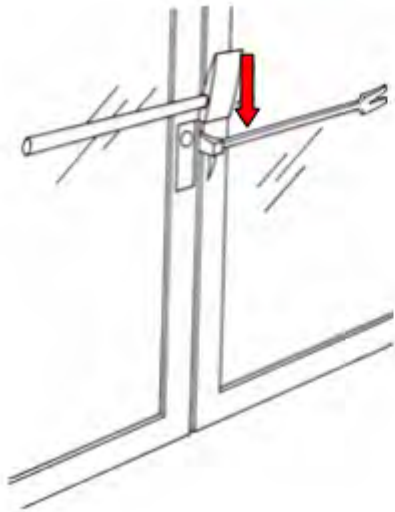


ALTERNATE MEANS OF FORCING – Using the Saw

If the occupancy has center opening double doors, take the forcible entry saw with the metal cutting blade and cut the bolt between the doors. There is enough room between the doors because of the door swing and the space is usually covered with only weather stripping. This may work with a single door if there is clearance for the saw to get in.



ALTERNATE MEANS OF FORCING – Using the Halligan Place the ADZ end of the Halligan between the door and the jamb, with the bar of the Halligan in line with the cylinder, and parallel to the ground. Strike the Halligan with an axe or maul **DOWNWARD** on the ADZ. This may snap the pin holding the bolt and pivot the bolt out of the keeper. This may work with single or double doors as long as there is room to place the Halligan.



Section 9.8

Chocking the Door

CHOCKING THE DOOR- This is a very basic and important task that gets overlooked from time to time. Many doors are self-closing and if not chocked open it delays other members from entering the fire building (occupancy). Whatever means used to chock the door must be “positive,” not something that can be knocked out unintentionally. However, it must be something that can be removed quickly if necessary. It is suggested that the first unit to enter the fire building be responsible for “chocking” the door. That could be the Officer or any member of the forcible entry team.

Some suggested methods of chocking a door:

- A wooden chock wedged under the door. Every member should carry at least two wood chocks in their pockets.
- Head of axe slid under the door. As the forcible entry team enters the occupancy, the axe is wedged under the door. This method marks the door, keeps it open and safeguards the axe since it is rarely used INSIDE once the door is forced. If you feel the axe might be needed INSIDE then this method would not be appropriate.
- Head of axe placed between the door and the frame, below the bottom hinge. A variation of the above method is placing the axe between the hinges. This insures the door staying open and lessens the chance of the axe being kicked out by members entering. It also marks the door and safeguards the axe. If you feel the axe might be needed INSIDE then this method would not be appropriate.

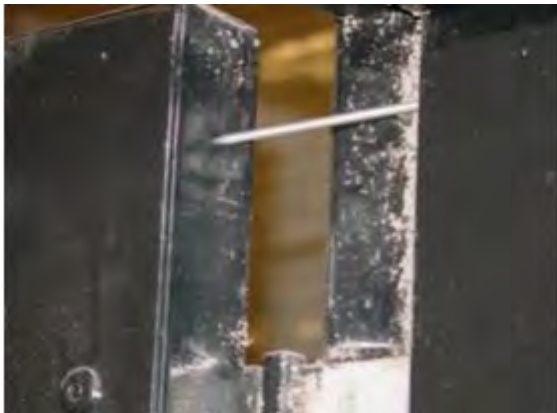


CHOCKING THE DOOR

- Placing the hydraulic tool against the open door. Once the door is forced, the hydraulic tool is not needed and can be used to maintain the door open.



- A nail placed between the frame and door.



Note: Door control is of extreme importance, whether a door is being chocked open to maintain egress, or kept shut to control flow path.

Forcible Entry Door Training Prop

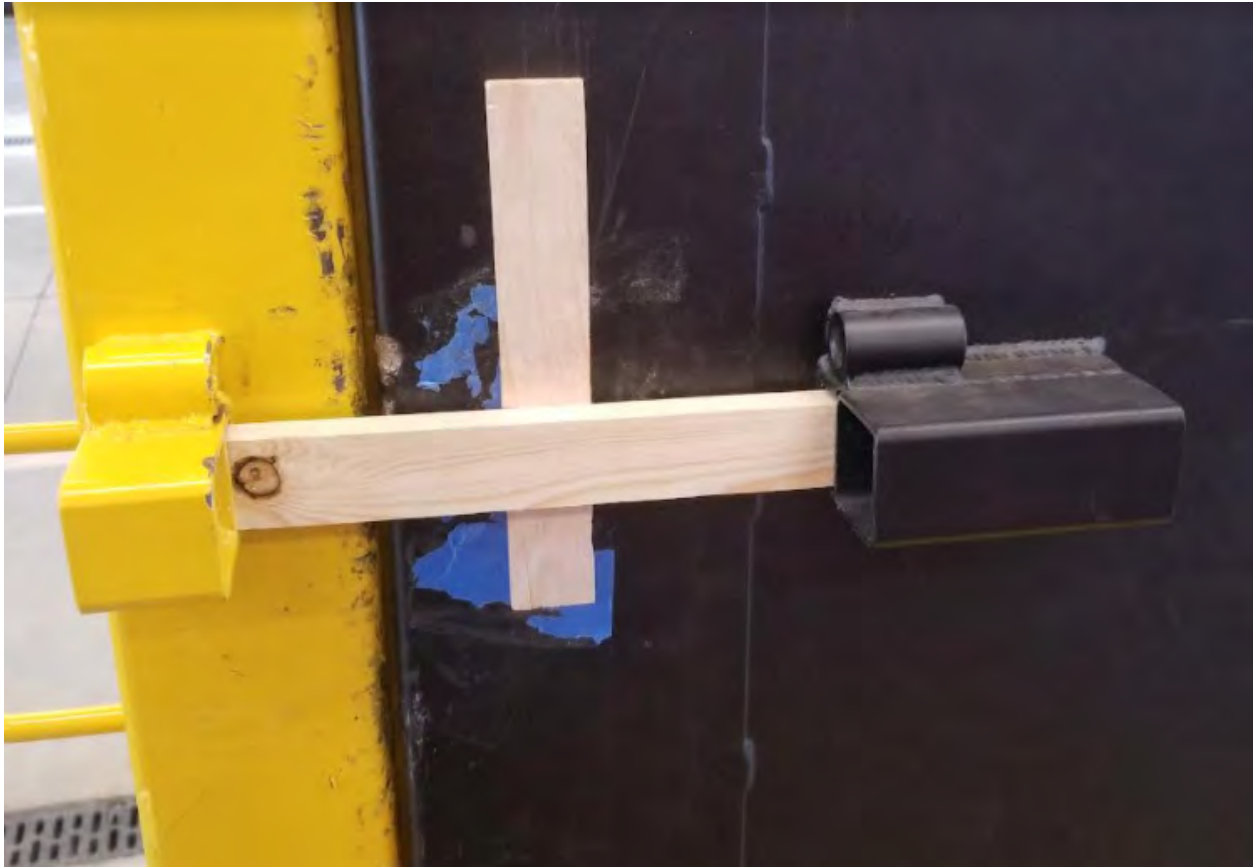
ALWAYS ensure that proper PPE is worn while operating with these props.

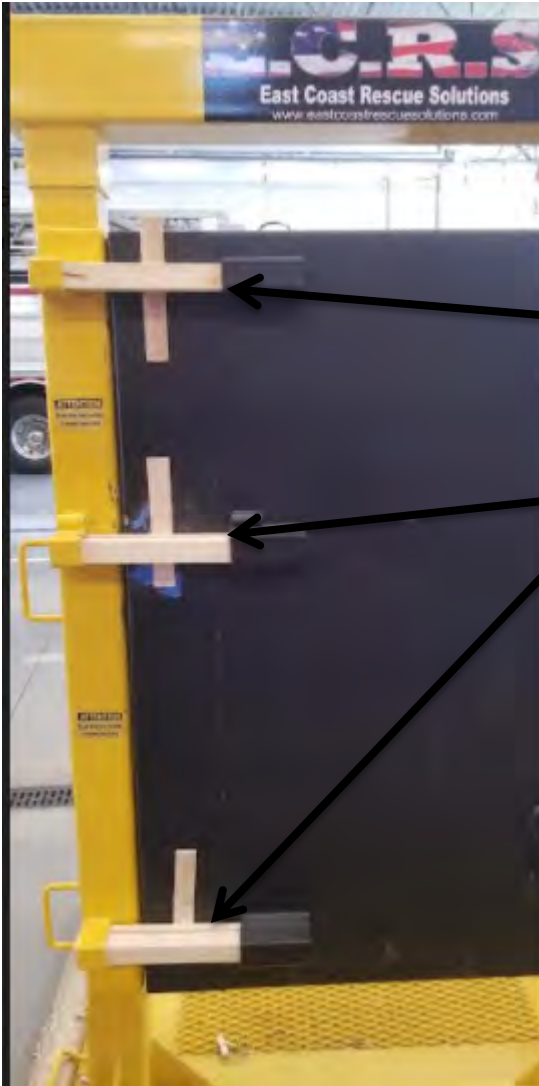
East Coast Rescue Solutions-Door Training Prop

This door training prop has many uses such as conventional forcible entry, hydraulic forcible entry, thru-the-lock forcible entry, power saw entry, and hinge pulling. Below are pictures and instructions on how to properly use the door prop. Use this door to practice the techniques and methods from the previous sections of this chapter. To add to the life of your door prop, have students simulate the sounding of the door for inward swinging forces at ¼ speeds. In addition, when forcing the door inward, ensure that the students do not drive the halligan on to the frame side metal locks but have them reposition the tool as they would in a real situation.



The picture below shows the 1"x2" piece of wood cut to 16" length and inserted in the door prop with a small wooden shim behind it as the manufacturer suggests.



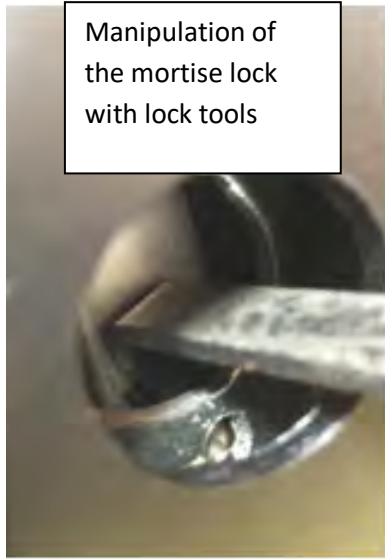


This picture shows all of the placements for the 1"x2" pieces and the additional 2"x2" pieces of wood in the door prop. All of the pieces are cut to 16" and are shimmed in place.

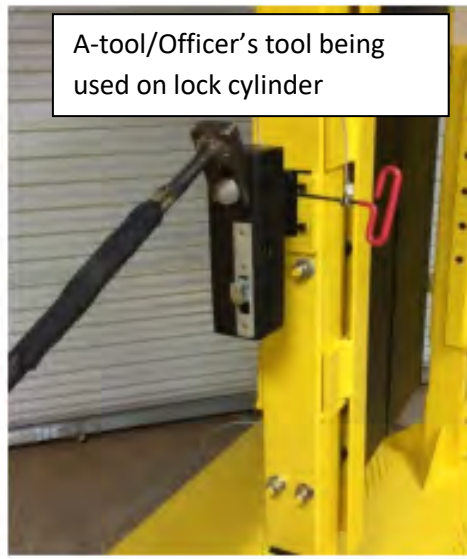
Below you can see the addition of rebar placed in the door prop. This is designed to mimic a steel cross bar or other entry obstacle. The rebar used is ½" diameter and cut to ~ 13" and should be used for advanced technique. Make an opening large enough the forks of the halligan can be inserted in order to remove the rebar by sliding it out.



Thru-the Lock Prop-This prop is designed to allow students to get a real world feel of pulling locks and how to identify the type of locks. Students also will learn how to manipulate the mortise lock built into the prop. The lock cylinder is a milled piece of 4140 steel and allows you to reuse the lock thus reducing set up time and consumable cost. The lock cylinder should be set into the prop and just hand tightened with Alan key provided. (DO NOT OVERTIGHTEN). Over tightening will cause lock to not pull correctly as a real cylinder would and could cause the cylinder to possibly become stuck in the prop. Once the lock is pulled use the key tool provided to locate position of cam (5 O'clock). Use bent end of key to push down pin to help release latch and manipulate the cam to the (7 O'clock) position, thus unlocking the door. Reset lock and cylinder properly and continue training.



Manipulation of the mortise lock with lock tools



A-tool/Officer's tool being used on lock cylinder



Using the K-tool on the thru the lock cylinder prop. Notice the opening below the K tool on the right for use of the lock pick tools to train on manipulation of a mortise lock swinging deadbolt.

Hinge Pulling/Cutting- The Hinge Pulling and Cutting prop allows you to train your student on the “Plan B” method of forcible entry. You are provided two hinge bases, hinges and T-Handles. The hinges provided are **for pulling only and should not be cut**. For cutting hinges purchase commercial hinges or flat stock. The T-handles are for holding hinges in place while placing screws in holes for pulling the hinges or while cutting hinges. **The ONLY screws that can be used are #7 1 ½-2” SHEET ROCK SCREWS.** See picture #3. (DO NOT use nails). The amount of screws used will increase the difficulty of the pulling of the hinge.

Picture #3

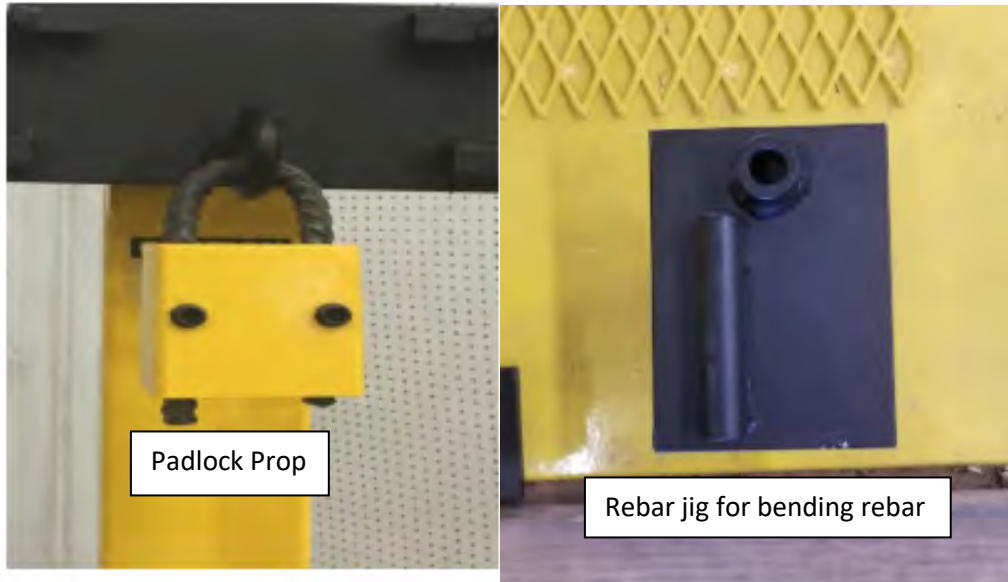


Rebar Cutting Prop- This cutting prop will allow you to train your firefighters on basic rotary saw operations. This prop only accepts ½” rebar. Insert rebar in any/all receivers and tighten bolts. See picture # 4.

PIC #4



Padlock Cutting Prop- This prop allows you to teach your students the skill of cutting case hardened locks. The prop uses ½ rebar that can be bent using the jig provided with a piece of pipe to assist in bending the rebar that then will be set into the base of the padlock and tightened with the set screws. One or two foot sections of rebar should be used and bent for the prop. The padlock will then be attached to the ring on the rebar cutting prop.



DO NOT use the ring attachment for striking any padlock to simulate breaking.