Protecting Your Home Against Theft

Housing Fact Sheets

There are a variety of steps which you as a homeowner or renter can take to discourage a thief from entering your home. Many security precautions do not cost large sums of money. Deterrence, or making your house or apartment appear unattractive to burglars is an inexpensive and often effective method to prevent burglaries. Another method, often referred to as "hardening the target" consists of creating physical barriers that make it very difficult for anyone to break into your home. Installing locks on sturdy doors, placing grates over windows, and installing alarm systems are examples of steps that make it more difficult for anyone to break into your home.

DETERRENCE

Research shows that most burglars will not attempt a break-in if they believe someone is at home. Listed below are methods that can give your home the appearance of being occupied and thus discourage burglaries.

LIGHTS

Turning lights on when you are away from home may ward off some would be prowlers. When going out for the evening, turn the bathroom light on as well as the outside lights. When going away on vacation, utilize timers--one in the living room, another in a bedroom--with different on-off time periods. Motion detectors with timers can be added to outdoor lights. When motion is sensed the light is switched on automatically and is timed to turn off a few minutes later. This gives the appearance that someone is home and switching outdoor lights on when anything unusual occurs outside.
NOISE
Noise also acts as a deterrent to burglars. A timer can be used to periodically switch a radio, television or air conditioner on and off, which will suggest that the home is occupied. A tape player on a timer may intermittently turn itself on to play recorded conversations. Other recorded sounds such as a telephone ringing and being answered, the sounds of pots and pans being rattled as dishes are being done or the sound of a vacuum cleaner or hairdryer are also an excellent means to make it appear that someone is at home.

OTHER SAFEGUARDS
• Neighbors who watch each others houses or apartments are also an excellent way to discourage burglars.
• Having all your belongings marked and then placing stickers near doors and windows stating that this has been done also works to deter burglars.
• When you leave your home for an extended period of time be sure to have your mail and newspapers stopped. Have a neighbor or friend check your home periodically to collect advertising flyers that may be accumulating outside your door. Make arrangements for the lawn to be mowed if it is summer, or the walks to be cleared of snow if it is winter.

HARDENING THE TARGET
Break-ins are classified into two categories: forced entry and surreptitious entry. Forced entry includes such things as kicking a door in, prying a door open with a crowbar, smashing the lock cylinder (the door knob) off with a hammer, or sawing the latch off with a hacksaw. Surreptitious entry includes such things as picking a lock or drilling out the lock cylinder. Crime statistics show that forced entry is the most common method used by burglars to break into homes, with kicking a door in or smashing the lock the most common type of forced entry.

DOORS
Two thirds of all illegal entries are made through doors. Since locks are only as good as the doors on which they are installed, we will begin with a discussion of some common types of residential doors and the level of security that each type door can be expected to provide.
Hinged Doors

Residential entry doors are typically made from steel or wood. The two most common styles of door are flush doors (Figure 1) and rail and panel doors (Figure 2). Each type of door style can be obtained with glass inserts (Figure 3). Flush solid core wood or metal doors, 1 3/4 inches thick, are most resistant to attack. Stile and rail doors with wood panels are somewhat less resistant to attack. Hollow core doors and doors with glass inserts are the least resistant to attack.

![Figure 1: Flush Door](image1)
![Figure 2: Rail & Panel Door](image2)
![Figure 3: Doors with Glass Inserts](image3)

Sliding Glass Doors:

Sliding glass doors (Figure 4) have three weak areas in terms of home security issues. First, they are relatively easy to pry open. Secondly, a bar can be placed under the exterior edge of the door and by prying upward the sliding panel can be lifted out of the track and removed. The third problem, the amount of glass typically included in these doors, makes them extremely vulnerable to intruders who may be unconcerned with the noise of shattering glass.

![Figure 4: Sliding Glass Door](image4)

The first problem, the ease at which they can be pried open, can easily be corrected by simply placing a stick of wood or metal in the interior track of the sliding door, this stick should extend from the edge of the door to the opposite door frame.

![Figure 5](image5)

The second problem, the sliding panel being lifted from its track and removed from the outside, can be prevented by inserting screws in the upper track (see Figure 5). The heads of these screws should protrude down far enough to prevent the door from being lifted out of the bottom track.
Another method is to "pin" the door. This is done by drilling a hole, with the door closed, through the sliding door panel and partially into the stationary door panel (where the two overlap). An eye bolt or a nail can then be inserted through the hole in the sliding panel, and into the hole in the stationary panel. This acts to "pin" the door in the closed position, making the door much more resistant to prying.

Another option is to purchase specially made sliding glass door locks (Figure 6) which are available at most hardware stores. These are easy to install and will prevent entry from the previously mentioned prying issues.

The third security problem with sliding glass doors, the large area of glass, makes these types of doors a poor choice for the homeowner or renter that is highly concerned with home security. In this case, sliding doors should probably be avoided or retrofitted with a sliding gate (see gates and grills on page 7).

DOOR FRAMES

Strong doors with good locks can easily be opened if not properly installed in a shimmed and securely attached door frame. An inadequately shimmed door frame allows the frame, on the lock side of the door to be pried back away from the door, thus releasing the latch and allowing the door to be opened.

A space as small as 1/16 inch is enough to allow the insertion of a pry bar or even a hacksaw, which can be used to cut the locking latch or bolt. To close a gap between door and frame and to check for a properly shimmed and attached door frame, the interior casing (trim) around the perimeter of the door frame can be removed, exposing the full door frame and the rough opening. Wood shims (thin pieces of wood) can then be inserted between the frame and rough opening. Shims should be installed near corners, and behind hinges and strike plates. This will stiffen the frame and make the door resistant to being pried open.
LOCK SETS AND LOCK TYPES

Key-in Knob-Lock (Figure 7)

Key-in knob-locks are the most common type of lock used on residential entry doors. They are also the least secure. The latch is often short and tapered and can easily be pried out of position; a credit card is often all that is needed to do this. This type of lock is also easy to kick in, since the knob protrudes only a short distance into the door frame (typically 1/2 inch).

Mortise Lock (Figure 8)

A mortise lock has the same kind of latch that a key in knob lock has, and also has a dead-bolt. The locking mechanisms that operate the latch and dead-bolt are contained within a metal enclosure that is mounted in the door. The dead-bolt protrudes further into the door frame (typically one or more inches) making it more difficult to kick in the door. When using this type lock on a wood door, be aware that the large hollowed out cavity required within the door to house this lock, may actually decrease the strength of the door.

AUXILIARY LOCKS

An auxiliary lock is a second lock added to a door to increase security. An auxiliary lock is a simple, inexpensive and very efficient way to improve the security of your home. Two types of auxiliary locks are discussed here.

1) Cylinder Dead-Bolt (Figure 9)

The cylinder dead-bolt fits within the door and the strike fits within the jamb. It is a relatively easy and inexpensive method for improving security. Cylinder dead bolts cannot be easily pried open and are also difficult to kick in.
2) Rim Locks: (Figure 10)

Rim locks are surface mounted on the inside edge, or "rim" of the door. The vertical dead bolt rim lock is an excellent choice to make when adding an auxiliary lock to a door. If installed properly using long screws, a rim lock is very effective. The mating plate or strike for this lock should be designed so that it can be secured to both the finish and rough frame of the door. The rim lock resists kicking, picking, and prying.

STRIKES AND SCREWS

The strike is the piece of metal attached to the door frame that receives the lock's latch or bolt. Often, the strikes that are included with otherwise good quality locks fail to protect the door from being kicked in. A few strong kicks are all that it takes to tear the strike, and along with it the lock's latch or bolt from the door frame. A secure strike is one that consists of a small metal box that fits into the door frame and accepts the lock bolt (Figure 11). In addition, this strike should be attached to the framing members of the door's rough opening. This typically requires 2 1/2 inch to 3 inch screws.

WINDOWS

Most double hung windows come with a cam lock similar to the one shown in Figure 12. These locks are quite easy to jimmy open from the outside, offering little protection in terms of security. Keyed sash locks are available at most hardware stores (Figure 13). They are easy to install and provide much better security than a typical window lock.

Pinning the upper sash to the lower sash with a nail or eye-bolt is a simple low-budget method for improving the security of wood double hung windows. This is accomplished in a similar way as with a wood sliding glass door. Drill a hole in the window frame at a point
where the top and bottom sash overlap. Drilling completely through the bottom sash and partially into the top sash allows the insertion of an eye bolt or a nail (see Figure 14).

GATES AND GRILLS
If security is an extreme issue for you, then you may want to protect windows and sliding glass doors in your home by installing steel gates or grills. Steel grills are typically attached to the exterior of the dwelling, over windows and doors with large areas of glass. They are often permanently attached, which significantly increases home security. However, when grills are permanently attached, the exterior side of windows can be difficult to clean. Also, these openings cannot be used as a means of escape in case of an emergency. An alternative to using exterior mounted grills is to use a folding gate that is operated from the inside. The gates can be closed and locked at night or when you are away from home and unlocked and opened when you are at home during the day.

BURGLAR ALARM SYSTEMS
If you are away from home for extended periods of time, or if there are many break-ins in your neighborhood, you may want to install some type of alarm system. Burglar alarms range from very simple and relatively inexpensive to extremely complex and expensive.

Three types of burglar alarm systems are discussed here:
• a "hard wired system",
• a "wireless system", and
• a "line carrier system".

Each of these alarm systems has three main parts: sensors, a master control unit and an alerting device. The sensors, which are placed at window and door openings, act as the eyes and ears for the master control unit. If the master control unit, through the sensors, detects a break-in, it will trigger the alerting device. The alerting device may be a loud signal that acts as an audible alarm to alert the resident, neighbors and the intruder that a break-in has been detected. It may also trigger an alarm at a local police station or security agency.
HARD WIRED SYSTEMS
With hard wired systems, wires are used to physically connect the sensors to the master control unit. This type system, while considered to be the most reliable, is also the most labor intensive and expensive of the three types of systems to install.

WIRELESS SYSTEMS
Wireless systems use small radio transmitters that are battery powered to allow the sensors to communicate with the master control unit. These systems are relatively easy to install compared to a hard wired system, but are not considered to work as well.

LINE CARRIER SYSTEMS
Line carrier systems use the existing electrical lines in the dwelling to connect the sensors to the master control unit. Line carrier systems are often promoted by retailers as being easy enough for a non-professional to install, however it is also considered to be the least reliable of the three systems.

CHOOSING A PROFESSIONAL
The locksmith is a professional in the field of security. However, the term, "locksmith" is often used to describe anyone who occasionally installs locks or just simply duplicates keys. If you decide to use the services of a locksmith, look for an individual that is licensed. A licensed locksmith has proven to a licensing board that he or she has extensive training and experience. In addition, look for a locksmith that maintains memberships to trade organizations. Memberships to local and national locksmith trade associations are evidence of an individual's standing in the field and indicate a reputable and reliable individual. It is also wise to check out a locksmith's references. Call the Better Business Bureau and police department to inquire about complaints against the individual or firm before trusting them to do any work in your home.

CONCLUDING NOTE
This fact sheet contains basic information about doors, door frames, windows, locks and alarm systems. You may also want to consult some of the many books and other sources available for more information on the subject of increasing the security of your home, and to assist you when making purchasing decisions.\footnote{Written 7/94 by Mark Pierce
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