



Chris W. Smith

# LOCK PICKING

## FOR BEGINNERS

*A Complete Step-by-Step Visual Guide on How to  
Pick Locks with Simple Tools Using Quick and  
Effective Techniques*

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Tools Using Quick and Effective Techniques

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## **Introduction**

Locks are everywhere, but people generally have no idea of even the basics of how they work. Look around you and think of all the locks you see daily – if you don't know how they work, their failure modes, how they can be manipulated, the differences between different types of locks, and what security they offer, then you can't make an accurate assessment of the security in your life. Locks are a huge part of our lives, and by the end of this book, you will be able to make an honest assessment of the security of your life.

Believe it or not, having the skill to pick locks may be the one thing that saves you when faced with a life-or-death situation. Lock picking is a survival skill. Survival can encompass any number of situations. Going to a concert, a public venue, or just walking down a crowded city street can result in facing a deadly situation. Amidst the chaos of such an event, there will likely be opportunities to seek the safety of a shelter, although it may be hidden behind a locked door.

This book details the step-by-step process of picking a variety of different locks and locking mechanisms. This skill set is not only a survival skill; it is a real-world skill that could come in handy for several situations, such as locking the keys in the car, losing the house key, etc.

This book is an excellent fit for you even if:

- You're not a locksmith
- You want to pursue lock picking as a hobby or aspiring to take up locksmithing as a career
- You don't have the right tools at home (we'll tell you what you need or how to make them)
- Have new locks at home (we'll teach you principles that you can

always apply, plus we'll cover new models, too)

- You're worried about the legal terms (we'll explain them to you)

So, no matter if you want to learn lock picking for fun, profit, or cover yourself in case you lose or forget a key, keep reading.

But before we get started, you must know the major ethics of lock picking:

1. Never pick a lock you don't own: The reason for this rule is obvious. Never pick a lock you don't own or that you haven't been given the explicit permission of the owner to pick.
2. Never pick a lock that is in use: Locks can break when you pick them. Don't pick a lock that is in use to avoid compromising your security or that of another person.

As to the legality of lockpicking, it's different all over the world. And even in a particular country, it will be different between the states of that country. In America, there are various laws throughout several states. Where I am, there's no problem walking around, picking locks. I used to pick at a park, and with friends at my local bar, we'd have a drink and pick some locks. But in other places, it might be more restrictive. So, please check the local laws to ensure that it's okay to possess and use tools. And generally, if you are reading this book and practicing what you learn in the privacy of your own home, you should be okay, but definitely check the local laws.

This book makes learning the art of lock picking fun and easy. You don't have to waste your time guessing how it's done, reading some amateur's theories, or trying to learn from the movies (they almost always get it wrong). Now, you can get accurate information that the professionals use and understand the technology that has kept thieves at bay for centuries.

If you intend to be an exceptionally skilled lockpicker, nothing should take

the place of dedication and frequent practice. Few things can be more impending than ordering a different set of tools from an online store and buying loads of locks at the local store. If you dive into the art of lock picking without adequate knowledge, you might be lucky to pop two or more locks, but you will likely encounter more significant problems most of the time. This book is written to ease you into the art of Lock picking steadily, understandably, and satisfyingly. The topics in each chapter would go a long way in ensuring that your first exposure to Lock picking is successful and rewarding.

Let's get started!



## **Chapter 1: What is a Lock?**

Many people have different understanding of what a lock is – only that the understanding is frequently limited to the lock models they have seen or owned. Not many non-locksmiths are well informed about the general kinds of locks found throughout the world or how the locking tools have advanced over the years. This is why so many books written mainly by people who know nothing about it define the term “lock” in a too broad, narrow, or outdated way.

### **So, what is a lock?**

The International Association of Home Safety and Security Professionals defines a lock as a device that includes a cam, bolt, switch, or shackle to hold an object in place. For instance, to a drawer, a machine, or a door.

## **Lock Names**

So many locks have different names, primarily based on the Lock's common appearances, uses, vital security characteristics, the way it is installed, the internal construction, manufacturer, or technology. Most of the names have double meanings. Some lock names are based on common usage; for instance, bicycle lock and trailer lock are peculiar enough to be used by beginners due to the noticeable similarities between those kinds of locks. In other words, a trailer lock is not so different from another type of trailer lock.

Some locks are established based on common usage, but locks like house and car locks point to many varieties of locks. You don't want to look confused if someone asked you to fix a new house lock as a beginner. The person has to be specific about the kind of Lock. The person would have to ask based on the style of the Lock's handle — for instance, a lever lock key-in-knob.

Other house locks that are common are deadbolt locks and interlocking deadlocks. Again, the names are established according to the vital security characteristics it has.

Another thing you should get familiar with is the terms used when it has to do with servicing locks. Locksmiths frequently use words that talk about a lock's internal construction or installation methods like a mortise, a bored, and a rim.

A rim lock is a kind of Lock specifically made to be affixed on the surface of an object or a door. The Mortise lock is positioned in an indented cut cavity. The Bored-in lock is mounted by cross boring two holes, one for bolted mechanism and the other for cylindrical mechanism. Lever tumbler, warded tumbler, pin tumbler, and disc tumbler are names that give details of the Lock's internal construction. Let's briefly describe them.

## **The warded Locks**

A warded lock is a designed projection fixed to prevent keys that are not authorized from operating or entering the Lock. A type of warded Lock is packaged in a metal case with a big keyhole, and it's worked on with a bit key known as a 'skeleton key.' The bit-key Lock is made in Mortised and mounted on surface styles. They are primarily used in cabinets and closed doors.



Apart from the door of the Lock being warded, some padlocks are also warded. You will know the padlock is such when the keyway is wide, sawtooth-like, and the key is also squared cuts. The warded Locks are not so secured because you can easily bypass them with a hard piece of wire or a tiny strip of metal.

## The Tumbler Locks



Tumblers are little objects made mostly of metal that move here and there within the lock cylinder to prevent the Lock's operation until the correct key or combination moves in alignment. There are different kinds of tumblers produced in different sizes and shapes, and it moves in various ways. Tumbler Locks are used widely than warded locks because it provides lot more security.

Most locks nowadays use a bit of tumbler type of arrangement either in addition towards it instead of a genuine key. The lock cylinder is made of a cylinder case. Its plug is part of the keyway, tumblers, and springs. The springs are placed in such a way that it is possible to apply pressure to tumblers. The tumblers are placed in a way that if no key is inserted or if the wrong key is put, the spring pressure pushes one or more of the tumblers to a position that prevents the plug from rotating. But if the correct key is inserted in the keyway, the key will move the tumbler into the position that allows the

plug to spin freely.

A lock can have a different type of cylinder. An operated key with one cylinder lock has one cylinder on the side of the door, mostly to the exterior side, to prevent the access from going towards the other side. Naturally, it can be used from the non-cylinder side by forcing a button or simply twirling a turn piece, handle, or knob. Key that is operated in double cylinder locks need a key on each side of the door. Numerous fire codes and local buildings prevent using these double-cylinder locks on doors that lead outside because the door can be difficult to open for people to leave the building quickly during fire outrage or other kinds of emergency.

### Types of Tumbler locks

There are three primary types of tumblers known as **pin**, **lever**, and **disc**.

#### The lever tumbler lock

Lever tumbler locks are mainly used on luggage, private mailboxes, and briefcases, but the locks do not provide a high level of security. Only the ones on bank safe deposits are explicitly made to give top-notch security.

#### The disc tumbler

Disc tumbler locks offer an average level of protection. They are mainly used on file cabinets, glove compartments, automobile doors, and desks.



### Pin Tumbler

Pin Tumbler locks can give average to top-notch security. But generally, they provide more protection than other kinds of tumbler locks. Lots of prison locks, all house locks, and those top-notch security padlocks use pin Tumbler cylinders. Some ignition locks and automobile doors have pin tumblers installed. There is a particular type of pin tumbler lock known as the tubular key Lock.

- The tubular key Lock



The tubular Lock has its tumblers arranged into the right alignment. A tubular key lock is challenging for most people to pick because its

appearance is different from the standard pin tumbler locks. Therefore, it is sometimes called Ace locks after the Chicago lock company trade name for tubular key locks.

These key locks are mostly found on high-security padlocks, vending machines, bicycle locks, and laundromat pieces of equipment.

Another kind of pin tumbler form is discovered in the interchangeable core (IC) locks. However, they are made in key-in-knobs, deadbolts, mortise locks, rim locks, padlocks, cabinet locks, and desks. All the locks in the IC system are either the master key or the same key. The prominent features of IC locks are the figure-eight-shaped core that keeps the springs and tumblers. The cores are not difficult to remove and get replaced. Any IC lock may be rekeyed by just putting a core that has not been used in the locks.

The combination locks are common alternatives to these key-operated types. The two primary types are the dial and pushbutton. Dial combination locks are done by turning one or more dials to a kind of position. In contrast, pushbutton combination locks are used by pressing a unique sequence of buttons mostly tagged with numbers or letters.

Electrical locks can be used with electric current. An electric lock has just a bar or bolt mechanism that does not have a knob, keyed cylinder, or turn piece, and it cannot be operated mechanically. There is another one known as electrified locks. This kind is a mechanical lock that has been modified. It can be used either with electricity or mechanically. The electric switch locks break the electric current when the correct key is put in the keyhole and turned; for instance, an automobile ignition lock has that kind of Lock. Once the key is moved, electricity moves from the battery of the car to the starter.

Time locks are made so that they could be opened only at fixed times on particular days. They are mostly mounted in a bank safe and bank vaults.

Biometric locks only unlock after the computer has clarified a physical feature like the voiceprint, signature, fingerprint, hand geometry, or the eye's retina.



## Key Types

There are six major kinds of keys;

- Barrel
- Bit
- Flat
- Cylinder
- Tubular Lock, and
- Corrugated

Although the various kinds of keys have multiple parts, mostly all keys have rhymed with the handle. The handle (bow) is the part of a key that an individual holds while putting the key in the keyhole to lock. Bows are made in different shapes and mostly have information that you can use to identify them or some form of advertising engraved on them.

- The skeleton (orbit) key is mainly made of brass, iron, aluminum, or steel. Peculiar parts of the key are the shank, bow, bit, post, and shoulder.
- Barrel keys resemble the bit keys, while the barrel keys have an indented (or hollow) shank, and it mostly does not have any shoulder.
- The flat key is flat on the two sides. Lots of them are made of nickel, silver, or steel. These kinds of keys are used for opening lever tumbler locks.
- Corrugated keys resemble flat keys, but the corrugated keys have rippled across the length of the blades. They are mainly used to open warded padlocks.
- Tubular keys have a short tubular blade, with cuts engraved in circles along the end of the edge. It is used to open tubular key locks. Some part of the tubular key is the blade, bow, nib, and tumbler cuts. In addition, there is a slight bulging at the edge. It indicates the position that the key

has to take to enter and open the Lock.

- The most popular kind of key is the cylinder key. It is used to work on the majority of disc tumbler and pin tumbler locks. Essential parts of the cylinder key are the shoulder, either one or two, the bow, keyway, and blade. The shoulders of the key are mostly used to stop when making the keys and when the cylinder key does not have a shoulder, the tip is used to stop it. The keyway grooves are mined across the length of this blade, making it easy for the key to be appropriate for the keyway locks.

## **The blank key identification**

You need to be able to note key blanks and keys. The key blank is the uncut key. Therefore, before you duplicate a key, you must know how to find a matching blank.

Important factors to look into when selecting a blank to replicate a barrel key or bit key are the:

- Diameter of the post and shank
- The thickness of the bit.

When selecting blank corrugated keys and flat keys, important factors are the length, thickness, shape of the blade, and width. Also, ensure that the blank and the key match so well in the features mentioned above. Finally, a blank specifically for the corrugated key must have the exact corrugated configuration that the key has.

Selecting a blank for the tubular key is not hard because there is no significant difference between the tubular keys. The vital features of tubular keys are the inside and outside diameters of the shank and the size of the nib. If you get a blank that matches the keys perfectly in those areas, go ahead to replicate the keys.

## **Cylinder key blank identification**

The cylinder key is a difficult key that is hard to find its blank, and most people ask experts to duplicate these keys. However, there are three common parts peculiar to these cylinder keys, and the key blanks that correspond can be of help when looking for the key blank. They are the keyway grooves, the bow, and the blade length.

The bow is the uppermost part of the blank or key. It's the area that you hold when you want to use the key to open a lock. Most cylinder lock makers use rare, distinct key bows, and so many people who reproduce them use key blanks to copy the fundamental shapes. Thus, depending on only the bow, you can either find a match of the key blank as soon as possible or let your choice be narrow to some little key blanks.

The blade is the area of the key that goes into the keyway lock. In general, the key blank and key ought to have blades of equal length. To check if the measurements are similar:

1. Hold the key and blank in the same way pressed against each other or use the diagrams in the key blank catalog.
2. Place the key on top of the illustrations in the key blank catalog when looking at the catalog.
3. When using the catalog, put the key over the description and align it at the shoulders.
4. Go ahead to observe the length at one peek because the catalog key diagram is the same size as the real keys.

Keyway grooves are much worse. Except the key blank and the key are similar or equal, that's when the grooves can fit into the exact keyway. A way to

know if the millings are correct is to put the key blank inside the keyway locks. If it enters, the grooving is similar or the same. You can also know they fit by gripping the key blank and key from side-by-side and peeking at the blade tips. You can also use the catalog to contrast the blade millings. Place the stand key over the cross-section that shows under the diagram of the blank directly. The millings have to match the same way to be considered useful for replicating.

Those who manufacture keys produce catalogs that you can use to identify the sizes and key blanks and show a cross-section of each of the different blanks. They also might have a cross-reference section indicating the other manufacturers' keys compared to the same catalog.

## **Chapter 2: Tools of Lock Picking**

To enjoy the art of locking, you have to work towards being a professional, and this requires you to use the right supplies and tools. Apart from the various types of power and hands tools used mostly by electricians and carpenters, locksmiths use different special tools. Therefore, the device you will need is dependent on the sort of job you want to perform.

The more you become good at it, the more service you will render and the more peculiar tools you will use. When you want to buy a tool, quality is more important than quantity. A device that can bend, break, or not work at the wrong time can lead to the loss of money and damage your customers' belongings. On the same note, a tool made with durable, quality properties will make more money that will even cover the cost of the tool. Even if the money you have with you is not so much, always make it a habit to buy the highest quality things you can pay for.

This chapter will look at the basic and advanced tools and supplies you need to be good at lock picking. You will also be informed on things you should look out for when purchasing your supplies and tools.

The advanced tools are electric drills and pick guns.

## Electric Drills

It is necessary to select the correct drill because your drill tool will often be needed more often than other portable power tools when doing the lock picking work. Drill price ranges from \$50 to about \$209 or more. Though the price is the indicator of the quality of the drill tool or any other tool, be sure you are getting the most of your money and knowing how drills are different from other ones.



There are three common sizes of drill:  $\frac{1}{4}$ ,  $\frac{3}{8}$ , and  $\frac{1}{2}$  inches.

The size of the drill is determined by the biggest diameter drill and the bit shank the drill's chuck can carry without the adapter. For instance, a drill that its chuck can hold drill bit shank, up to  $\frac{1}{2}$  inch, is referred to as  $\frac{1}{2}$  inch drill.

The power of the drill is the combination of torque and chuck speed. Speed can be measured in revolutions immediately after the chuck begins freely in the open air (rpm). Torque is the twisting force of the chuck when the drill is being used to make a hole.

Torque and chuck speed are determined by the kind of reduction gears the drill has. Reduction gears in the drill work like car gears. A gear, for instance,

allows the car to move ahead fast on a road that is not steeply, and another gear provides the car more strength when climbing a steep hill. A drill has a fixed kind of reduction near the set. You cannot shift the gears of the drill. A single-stage reduction gear allows the drill chuck to spin so fast in the air but gives little torque. A double stage reduction gear set gives small RPMs and a lot of torque. A triple (or three) stage reduction gear set rides the RPMs more and accelerates the torque the more.

Bigger torque is used specifically when boring hardwood, steel, or other kinds of hard materials. For example, it is good when making large holes like the one needed to install deadbolt locks.

Lots of  $\frac{1}{4}$  drills have one stage reduction gear set. The chucks mostly move around at about 2500 RPMs or more than that. These drills are not heavy and are mainly used for drilling softwood, plastic, and sheet metal. Using this kind of drill to bore steel or hardwood would take most of your time and even destroy the drill.

Lots of  $\frac{3}{8}$  inch drills have one or double stage set of reduction gears. Likewise, most hole saws and drilling equipment's shanks won't go into a  $\frac{3}{8}$  inch chuck without using an adapter.

The  $\frac{1}{2}$  inch drill is one of the most used sizes among Lockpickers. A  $\frac{1}{2}$  inch drill mostly has two or up to three-stage set reduction gears, and the chucks can spin at about 600 rpm. It can drill any material that can be bored by a small drill. It's not all  $\frac{1}{2}$  inch drills that look the same. They may differ mainly in price and quality.

Most manufacturers name their drills professional, heavy-duty commercial,



and so on. These labels are used to promote their tools, and they may have no industry-based meaning. Therefore, it is best to look past those terms for peculiar features. The most vital components you should look out for are double (or two) or triple (or three) stage reduction gears. The double insulation, variable speed reversing, antifriction bearings, and the amps should be four at minimum.

The variable speed feature gives optimal control over the drilling speed. It allows you to bore into various materials at various rates. Without the variable speed control, you may not be able to drill beyond one or more speeds. Most drills have a switch that allows you to reverse the direction that the chucks turn, and it is useful for a stuck drill bit or backing out screws. A variable speed drill that can be reversible is known as variable speed reversible (VSR). The VSR drills are worth the money cost.

Double insulation connotes that the drill is roomed in a non-conductive material, for instance, plastic. And the motor is kept separately from other areas of the drill by these non-conductive pieces. So a doubled insulator protects you from getting electrocuted. The majority of top-notch drills have double insulation. So do not think because it has plastic housing, it is low quality.

Antifriction like needle or ball bearings assist the drill to go into the material with ease and cause it to last long. Every top-notch quality drills have antifriction bearings. Less quality ones use only plain sleeve bearings.

Amperes, shortened as the amp, is the unit of electric current. Invariably, the more the amps are used, the more the drill will become powerful and

charged. High-quality drills use at least four amps. Drills that indicate horsepower instead of amps are of low quality. Any kind of drill with the features correctly is top-notch, and it should last for a long time if properly used and adequately maintained. You can also consider the weight, color, size, country of origin, feel and brand, though these features do not add quality to the tool.

### Cordless Drills

The cordless drill can easily bore tiny holes and fix screws. It is lighter than the electric drill, and you can use it instead of the other one when there is no power supply. But they are not as powerful as the electric drill.



## **Creating a workbench**

When creating a workbench, you should consider the following

- The workbench should be comfortable and practical
- It should be long enough to give enough workspace
- It should be edible, durable, and strong enough to support a key machine on one side.
- It should be solid to keep the machine in alignment.
- It should be high enough to let you work without bending.
- Very wide to store supplied and parts at least thirty inches wide.
- It should be placed where you can lot it from behind it overhead or the sides but not too close to the bench.

### Workbench location

Consider where you want your workbench should be. If you can put it in a well-ventilated area, away from where everything can look jam-packed, that will be awesome. Place it near the tools and supplies you use often. There are no ideal workbenches for anybody. Choose it according to your taste and the kind of job you get daily.

## The pick gun

When this tool is moved, it sends sudden energy into key pins. Then it gets communicated to the driver pins leading to the pins to jump, causing the cylinder to move freely until the pin springs get back to their locked state. You can get the electric or manual pick gun in an online store or hardware store.



## **Tubular Lock Pick**

It is a tool specifically used for opening a lock. The tools look alike in design and sizes to fit familiar tubular Locks in addition to the 6,8,10, and 7 pin locks. It is placed into the Lock and twisted clockwise with a small torque.



Once the tool has been pushed in the Lock, the pins will be forced down slowly until it stops, bending the driver pin behind the Lock. Thus, you can easily use it to open a lock in few seconds. Furthermore, most of these lock picks are accompanied by a decoder, allowing you to know the extent to which the pins had broken.

### **Chapter 3: Lock Picking Techniques**

There are two major methods of picking locks: raking and using pick guns. This chapter will discuss these two techniques, including Lock picking tips and picking a tumbler lock.

## **Raking**

Raking is a common technique for picking locks.

- For a lock to be raked, put a pick of about a half diamond inside the keyway.
- Let it pass the last set of the pin tumblers and immediately move the lock pick into and out of the keyway in the form of figure 8 motion while different tension on the wrench of torque.
- The act of scrubbing the pick leads to the pin moving up or above the shear line, and the various pressure on the torque wrench assist in catching and holding the top one on top of the shear line.

Though the act of raking is based on sheer luck, at times, it works the best.

When you become an expert, you will be able to rake a lock and hold a few pins on your hand while working on the Lock.

## **Using a Pick Gun**

The pick gun is a great help in lock picking.

- Insert the blade inside the keyway that is beneath the last edge pin.
- Straightforwardly grip the pick gun.
- Then put the torque wrench in the keyway.
- Then nozzle the trigger of the pick gun. When you do this, the blade will hit the bottom pins, which will, in turn, knock the pins above into the upper chambers of pins.
- Nozzle the trigger many times. As soon as you finish squeezing each time, the pressure should be mounted differently on the torque wrench. You are likely to hold one or more of the upper pins in the upper pin chambers and place them on the ledge of the plug.
- After that, pick each of the pins that remains one after the other.



## Lock Picking Tips

Now that you know how to use a rake or pick gun to pick a lock, you must know some things before you venture into it.

- Before you try to pick a lock, ensure that it is in a healthy condition. To know if it's in good condition, try to turn ½ diamond pick to lay on its back and raise the pin stacks simultaneously. Then begin to pull the pick out of the lock bit by bit to see if the pins will drop off. If all the pins do not drop, you might have to add lubrication oil to the cylinder or take out dirt from it. Be careful not to oil the Lock if you want to impress on it.
- Create a spacious working space; use the tiniest pick that is available. Grip the pick as you would grip a pencil, with the tip of the pick pointing toward the pins. Do not use the wrist action; your fingers are the part that would work best in manipulating the pick into the Lock. With the second hand, put the little bent end of the torque wrench into the bottom or top of the keyway. Do this in the best position that will give you the maximum room to maneuver the pick well.
- Ensure that the torque wrench does not touch any of the tips.
- Use the index finger or thumb of the hand that's gripping the torque wrench to mount slight pressure at the end of the torque wrench in the direction you intend the plug to rotate.
- As you are using the pick, lift the last set of pins carefully to the shear line and apply slight pressure with your torque wrench.

- Calculate the extent to which you want the pin stacks being lifted to have resistance. Then, release the pressure you had applied on the torque wrench allowing the pin stacks to fall back into position.
- Then go ahead to the following pin stacks and repeat the same thing. Always keep in mind the kind of pin stack that offers the least and most resistance.
- Do it all over again with the pin stack that gives more resistance. Carry the tops of its edge pin-up to the shear line as you place different pressure on the torque wrench.
- Mount lots of pressure on your torque wrench to grip on the place the picked top in. Then move on gently to the following stack that is the most resistant. Keep lifting each of the pin stacks into position. By doing this, you are forming a bigger ledge for other top pins to stay on.
- When all the top pins stay on the plug, it will become free to twist to the position unlocked.
- It is vital to pick pin stacks from the more resistant to the not too resistant. Why? So that the less resisting stack won't create a small ledge on the plug, which can lead to the ones been picked already that are more resistant to fall out of the ledge.

## **Picking Pin Tumbler Locks**

In the beginning, we talked about the necessity of constant practice. It's by practicing that you would be able to pick open even the most quality pin tumbler locks in the space of two minutes. Unless the Lock has some problem, techniques and tools can be constructed to simulate the action of any key.

The hidden secret to set picking locks very quickly is to be focused on what you are doing. Visualize what is taking place in the Lock as you are picking it. If you know how pin tumbler locks work, you will not find it difficult to understand how it is picked.

### Why Pin Tumbler Locks Can Be Picked

The Pin Tumbler can be picked because of slight misalignment and spaces in the cylinder. When locks are produced, there must be a space in the upper and lower pin chambers for the pins to rotate to and fro easily. The lower pin chambers are the holes across the length of the plug which grips the bottom pins. The pins in the upper chambers are the holes that correspond to the inside of the cylinder housing that put in place the upper pins.

To make a locked state, one or two or more of the pins in the upper chambers must get into the lower pin chambers, and more of the pins in the lower chamber must be heightened a bit into the pin in the upper chambers. When the pin Tumbler is kept between the lower and upper pin chambers, the plug will not be turned, which means it is locked.

## **Chapter 4: Pin Tumbler Locks**

There are different kinds of pin tumbler locks. They are manufactured in various ways, including the key-in-knob, deadbolt, automobile ignition locks, padlocks, and lever. The similarities the pin tumbler shared among themselves are that they have a housing or pin tumbler cylinder. When a pin tumbler lock is kept on a door, you can always see just the face of the cylinder or the Lock's plug. It is easy to note a pin tumbler lock by looking inside the keyway. You will notice that a pin or more pin tumbler is hanging downward.

The Tumbler Cylinder Mortise Lock is a pin tumbler that is mostly used in apartments, homes, big institutions, and businesses. It is so popular and gives excellent security. Do not mistake the pin Tumbler cylinders with the inferior counterpart, the bit key mortise lock. Although each part may differ slightly among the various models, the most fundamental pin tumbler cylinder mortise locks are almost identical. You can also practice the mortise locks by disassembling them, but the pin tumbler lock is the main focus of this chapter.

## Construction

Though pin tumbler cylinders are not difficult mechanisms, some of the very secured mechanical locks depend on the kind of cylinder. This is because so many pin tumbler cylinders have independent mechanisms. They are made in various shapes to fit the Locks of different designs.

The fundamental aspect of a pin tumbler cylinder consists of the cylinder shell or case, core or plug, upper pin chambers, keyway, lower pin Chambers, drivers or top pins, bottom line, and springs. You can remember these parts once you know the relationship one has with another.

The cylinder shell or case encloses all the other areas of the cylinder. The aspect that moves around (rotates) when the appropriate key is put into the keyway is the plug. The drilled holes, mostly about five or six along the long side of the plug, are lower pin chambers. The keyway is the part of the opening on that plug that receives the key.

The drilled holes corresponding to the cylinder case immediately above the plug are called upper pin chambers. They both hold the spring and the driver pins.

## **How the Pin Tumbler Cylinders work**

When the key is not placed in the cylinder, the pressure downward of the spring pushes the top pins or drivers down a bit into the plug to disallow the plug from getting rotated. The lower parts of the drivers get forced into the plug due to the plug holding the bottom pins. There isn't plenty of space in the lower pin chamber to grip the whole length of the bottom pin and the driver. Instead, there is little space between the cylinder case and the plug – space is referred to as the shear line. When there is no shear line, the plug will not fit well in the cylinder case to allow rotation. When a right cut key is kept in it, the top of all the pins at the bottom and the edge of the drivers will collide at the shear line. When the pins are held in that state, the plug is freed, making it rotate to the open state.

The plug consists of a keyway and an off-center (paracentric) type. Though they mainly consist of 5 or 6 low pin chambers, some have 4 or 7. The lower pin chambers are slightly spaced equally along the above surface of the plug, and they are arranged as close as the modern production method gives room for. By putting the plug together with the bottom pins in a plug holder and placing the key in it, you will see how the plug will function in the cylinder. A plug can be milled with its shoulder in a forward surface manner; this shoulder meets with a recess (check) in the cylinder and gives:

- The reference point to regulate the arraignment of the pin chambers in the plug and the case.
- A safeguard to disallow the plug from getting driven through the cylinder purposely or through the developed resistance as the key gets into the keyway.
- A safeguard to stop a thief from shimmiing the pins. When this shoulder is

not there, it would be easy to push the pins out of the Lock with strong spring steel.

The plug is maintained at the end by the screws and a cam, a retainer ring, or by a driver that keeps the plug locked into the cylinder.

## **Pins**

The top and bottom pins are mostly made up of brass. They are manufactured in different diameters, shapes, sizes, and lengths. Though they are not big, pin tumblers can be very sturdy. The shape of the pins assists in resisting any attempts to pick the lock open. A standard cylindrical driver can easily be carried up to the sheer line using a pick while also maintaining the tension wrench used to exert little twirling force to the plug. But a top pin with a broken profile will likely get hung up before it goes through the shear line, which causes the lock to be a bit difficult to pick.



## **Tailpieces and cams**

Many pin tumbler cylinders have a cam or a tailpiece affixed to the rear of the plug. The tailpiece becomes loosened to allow flexibility in the secondary lock situated on the other side of the door. Ensure that it is well-aligned. The tailpiece must not be more than a one-quarter inch off the axis of the plug.

On the other hand, the pin tumbler cylinders for mortise locks do not have that kind of tolerances. The good one is the driver with the cam at the end of the cylinder. When the Lock is fixed on a piece of office equipment, the cam is likely to be milled at the back of the plug. The locks must be in alignment with the mechanism of the bolt.

## Disassembly

You will require a screwdriver, preferably a small size, to disassemble a pin tumbler cylinder. When you have the right tool with the correct diameter and a pin tray, do the following:

- Twirl the plug to about thirty degrees. You can achieve that with the key or by picking or shimming the cylinder.
- Take out the tailpiece or can by taking a retainer ring or two screws. Use a small pair of pliers to remove the retainer rings.
- Bring the cylinder so that the pins can be placed vertically, and slip the right size of plug tool that is followed inside the cylinder behind the plug directly. Make use of the follower plug tool to push the plug out of the cylinder face slowly. Do not cause a space between the plug follower tool and the plug, or the drivers or the spring will fall away.
- Grip in place the plug as it gets out of the cylinder. Do not allow the bottom pins to fall away from the plug. Let your index finger cover the pin chambers and place the pin in the initial compartment of the pin tray.

The preceding:

- The pin chamber should be uncovered in the plug, and take out all the pins in the compartment corresponding to the pin tray. Keep doing this process until every bottom pin is taken out of the plug and placed inside the pin tray in the right order. You can now put the plug away for some time.
- The cylinder case should be held and pull the plug follower bit by bit out of the back of the cylinder. Stop the driver and spring-fall from falling off from the upper pin chamber as you are doing these. Then put both of them on the tray on top of each corresponding lower pin.

## Assembly

A plug follower, pin tweezers, and a small-sized screwdriver is needed here to assemble the pin tumbler cylinder. The plug holder is not optional – it keeps the plug in the upward position, which lets your hands be free while putting the bottom pins.

The following procedure will be useful for you if you have the key but cannot remember the pin combinations.

- Put the plug inside the plug holder and place the key into the keyway plug.
- Take a bottom pin one by one, place it into the less pin chamber closest to the plug's face. If the pin raises below or above the shear line, use a different pin. When the pin shows to be at the shear line, twirl the plug using the key. Assuming the plug moves 360 degrees in the plug holder, the down pin might be the correct one.
- Do the procedure again for both sides of the lower pin chamber till every bottom pins reach just the shear line. Please do not take out the key or twirl the plug over.
- The plug follower and the cylinder case should be moved to the back of the cylinder till the upper pin chamber that is the third-get covered from the surface of the cylinder. Twirl the cylinder case down so that the pin chamber on top will face the floor.
- While using the tweezers, the spring should be dropped inside the pin chamber while exerting a bit of forwarding pressure on the plug follower, and the plug follower will hold the driver into place. This will lead to the driver's release with the tweezers. Use the tweezers to force the pin in the upper pin chamber whole, also pushing the plug follower on top of the cylinder.

- When you get to this stage, two upper pin chambers should be filled and covered by the plug follower. Push out the plug follower to face the cylinder to some extent where the plug follower can cover the upper pin chambers you have filled already. The other upper pin chambers can be exposed.
- Put the driver and the spring in the shower upper pin chamber closest to the plug follower. Enclose the pin chamber with the plug follower. The step should be repeated till the upper pin chambers get filled.
- Twirl your cylinder case straight up, so the springs and drivers are in a vertical form.
- Remove the key from the plug slowly so that the bottom pins do not pop out of the plug. Put the plug inside the cylinder by forcing the plug's back against the plug follower to come out of the cylinder case rear. Rotate the plug till the upper pin chambers are arranged with the chamber of the lower pins.
- Lock the pins of the plug in position. As you are putting the plug, ensure the lower pin chambers are 30 degrees at least out of alignment with the chambers of the upper pin.
- Ensure the key works by putting it in the plug and turning the plug. Cautiously rotate the plug and take out the key; only the pins can hold the plug in position. With the key inside the plug, all the pins must be on the shear line, and the plug is pulled out of the cylinder easily. When that occurs, all the springs and drivers will fall off.
- Put the tailpiece or the cam into the cylinder and test the key again.

## Selecting a Pin Tumbler Lockset

The most popular kind of Lock is the pin tumbler cylinder. The locksets can be gotten in different styles and types. The common features of these locksets are:

- Security: The Locksets of the pin tumbler cylinder give above-average security because of its internal design. The more there are pins in the pin tumbler cylinder, the more secured the Lock is. Security depends on the Lock's standard, application, and the service the lockset is meant to render.
- Lockset is noted by its function, for instance, for residential, classroom, lavatory e.t.c.
- Visual appeal: The lockset should blend and match the décor of the surrounding.
- Hand: The direction and location of the swing should determine the door's hands. It is necessary to match the lockset to the hand's door. If you do not do that, the striker or bolt may misalign and lead to an upside-down installation of these cylinders. When the cylinder rotates to about 180 degrees, the weight of these pins is directly on the spring.

## **Chapter 5: Picking Locks that have Security Pin**

Picking locks with a security pin is not an easy task. It is that kind of task where lock picking effort might be futile. Nevertheless, if you become so good at it, even the most difficult task will appear simple. To know how to pick a security pin, we must understand how it works.

## What is a security lock pin?

A security lock pin has a torque wrench, and tension is usually applied to the plug's Lock. Without the torque wrench, it won't be easy to bind the driver pins not to talk of setting and holding them on the shear line.

To better understand, let me give a vivid description of how a pin is set on a simple lock.

The driver pin is set on a simple lock by binding it first with the rotational torque on its plug, and then you raise it into the shear line. The pin cuts into a bind and stays atop the plug when you get to the shear line, making the pin set. So to stop a lock picker from picking the Lock, there has to be a long way of getting the driver pin from getting into the shear line when the plug is under tension

### How can this be done?

The first security pin was invented in 1865 by Linus Yale. He tried to find a solution to this issue by slicing a notch inside the driver pins. This easy modification led to the driver pins getting caught on the shear line whenever the plug gets heightened under tension.

So while the driver pin has been tensioned and heightened, it runs on the wall of the plug until the notch gets in contact with the shear line, and then it snags. But, its snagging does not only stop the pin, but it fools the lock picker to believe the pin is set at the shear line when it is not even close to it.

The state of the driver pin being snagged and placed under the state is called a **false set** and is the basic information to note about the security pin.

### The False Set

Apart from the driver pin getting snagged and placed under set at the shear line, two more factors of the false set add to the trickery of fooling the lock picker into believing that the pin has been correctly set.

- The number one deception is that though being set falsely, the space in the

security pin will lose hold of the bond and give room for the plug to move around till it again get the closest pin to cling to. This movement is so close to the aura we feel when the pin has been set correctly at the shear line. Nevertheless, the rotation is quite dramatic based on the type of security pin and the extent to which the cuts go deep into the pin. If a high degree of rotation of the plug occurs, you should know that the kind of Lock you are dealing with is the security pin Lock.

- The second deception is that the moment the driver pin is set falsely, it will not be active anymore in the keyway. Apart from it making the picker believe the pin has been set the right way under the shear line, it will also cause you to be frustrated along the line in the binding pin that is next to it, which you will not see at all because it is locked away at the shear line and not in the Lock's keyway. This makes most beginners conclude that they have overly set a pin, leading them to release the tension mounted, leave the pins and begin afresh. But nothing still changes as you will find yourself in that deadlock position again.

Before I dive into the types of security pins and how to pick them, you need to understand another concept, counter-rotation.



## **The Counter Rotation**

Something happens when we keep pushing at a security pin that is notched at a false set. If we keep pushing the pin, it tries to straighten itself by pivoting around the surface where it is snagged. This leads to the second side of the driver pin moving back towards the plug, which causes it to move in the other direction that you are applying the torque wrench. This is what is called counter-rotation.

Two reasons for the counter-rotation:

- It indicates that you are dealing with a security pin, and the pin is set falsely.
- It helps you select the security pin when you counter-rotate the plug enough to push the pin to pass the locking point and to the shear line.

Now let's talk about a popular type of security pin.

## The Spool Pin

Its name was coined from its similarities with a spool. The popular spool pin diameter is the same as the quality pin at the bottom and top segments, but it has a broad horizontal saw tooth serration, narrowing across the midsection. It was developed first by Linus Yale in 1865. The simplicity of the spool pin design and ease of making made it the commonly used security pin in most locks this century.



Because it is made in a simplified way does not mean you can easily bypass the locks – it is not as simple as it appears to be. Because of its design, the pin can detect that it is in a false set easily, and once it's detected, you can pick it without stress.

### Recognizing the Spool Pin

*How do you identify a spool pin?*

You can know them because of the way they are designed. Once the upper and broad section of the spool pin goes into the shear line, the plug becomes easy to rotate more than any other kind of pin because there is a bit of distance between it to go round before it stops on the most narrow midsection. The notable rotation alerts us of the spool pin and the prospective

of the false set. In addition, the edge ridge of the pin will become caught up at the protrusion of the shear line, leading the pin to stick.

There is one more step to verify that you are stuck to the spool pin. When maintaining the light tension on the plug, let more pressure be applied than necessary in the normal upward push on the pin. If it's a spool pick, the bottom ridge will push a bit towards the back and against the plug as you apply pressure on the pin. You will notice an increase in the pressure on the tension wrench as the plug rotates slightly against it.

## **Picking the Spool Pin**

Now that you know how a spool pin looks like, how do you pick it?

It is not that difficult. All you need to do is just lighten up the pressure you should apply on the tension wrench a bit and then start pushing the spool pin gently. As you begin to push the spool, the counter-rotation will occur. If it happens, it indicates that you did it the right way. Keep raising the pin till you feel it vibrate or click the way others set.

I bet this is a bit simple, but there are two popular issues that you might get into as you attempt to pick the pins.

Because the spool pin leads to the plug counter-rotating, some of the pins that have been set previously might fall back into the plug. It is normal for this to happen, so don't panic if you have to pick the pins you set all over again.

The other problem is that you might end up oversetting the pin. This happens when you mount too much pressure where the key pin ought to be pushed past the sticks and shear line. The solution to the problem is by releasing a slight amount of tension or pressure on the plug and strike lightly in the hope of banging it into the plug back. But, at times over setting the pins can lead to the release of the tension, and you have to begin all over.

## **Chapter 6: Opening Car Locks**

Though the automobile has been in existence since the early twenties, the lock was accepted slowly. At the end of the 1920s, almost all auto had the ignition lock, and cars' closed doors also have door locks. Recent models can be kept safe with almost a dozen of locks. In this chapter, how to service and open all kinds of vehicle locks will be discussed.

## Opening Locked Cars

Opening cars may be a profit-making aspect of lock picking. For some people, it is the largest source of income. To provide car opening solutions, you do not need lots of expensive tools. Just get one that applies to the jobs, and you will do well at it.

I have worked with an automotive lock maker before, so the suggestions and tools I list here are excellent and top-notch.

### The Tools you need

Car opening tools sold through pick lockers supply houses might include about forty or more tools. Tool manufacturers indicated that making more than one specific product is good because of the consistent changes in locks made to newly produced cars. Some of the peculiarly shaped tools are made for one unique model or year of the car.

You can open most cars with just five tools, and you can make these tools yourself. Not only will the tools be less costly, but they will work efficiently if you made them yourself. The most vital car opening tools are the:

- Slim Jim
- J tool
- L tool
- Across the car tool and
- A hooked horizontal linkage tool

They have various ways of manipulating and reaching the lock buttons and assembly locks of the car.

The slim jim: This tool is a flat piece of steel with cutouts close to the bottom on the two sides. The cutouts allow you to bind and hook the linkage rod from the two sides of the tool. This tool can also be used to push a lock pawl down. The tool is produced in various widths, but getting the wide and thin

one is very good. You can purchase them at any hardware store and automobile supply store. You can also get a better model from the locksmith supply house. They are mostly well built and have lots of notches and a handle, and it looks more professional.

To create your own, get a twenty-four-inch piece of flat aluminum or steel from one to two inches wide. You can also use any other item of the correct size made out of good material or use a ruler. Simply draw the slim Jim shape on the metal and go ahead to grind the excess material away.

The J tool is another tool that is easy to use. You place it within the door, between the weather stripping and window, then beneath the window and under the lock button to force the button up to the position unlocked.

The L tool is employed to pull or push on lock pawls and bell cranks. You can use it to get access to the lock rod by getting beneath the lock handle. To use it on any car, make or purchase a tool with L tool on one side and J tool on the other end. The area of the tool that goes in between the door has to be a peculiar shape; the remaining of the tool is the handle. It can be used for making or buying tools that have different size tools on both ends.

Across the car tool is a six-foot piece about 3/8 in diameter around the stock bar with a little hook on an end. The name is derived from the fact that the tool can be used to go into a window and reach across the car so that it gets to the window or lock button. But at times, you can use it on both sides of the car from where you placed it. The majority of the ones you bought can be bought in three pieces, and you can even screw them at the same time before you use them. They mostly break and bend at the joints. If you purchase one in three pieces, you can braze the pieces at the same time. But it's best to

make your own out of a piece of steel.

The hooked horizontal linkage tool has many names, manufactured in various configurations and sizes. The little hook on the other end of the tool allows you to bind and catch the horizontal rod and slide it to unlock the door. Some hooks are down towards the rod, while others are from the bottom of the horizontal rod. There are two kinds of horizontal linkage tools: the three fingers kind that goes to clamp on the rod and the tooth-edged type that goes into the rod. The two types are not appropriate to use as they can bend the linkage rods.

To make use of these car opening tools, you will need some wedges and flexible light. Ensure the wedge is made of wood, rubber, or plastic. The wedges can open the door from the window to let you out the tool and light. The light helps you see this linkage assembly well to know the kind of tool to use and the place to put the tool.



## **Car opening techniques**

There are so many techniques that will allow you to open a car lock easily. Parts of the car to grab for opening are the bell crank, vertical and horizontal linkage rods, and the lock button. The bell cranks are the part of the lever that links to the linkage rod that's fixed to another linkage rod or the latch. The most used style of the bell crank is semicircular. Another one is the L-shape. The Horizontal rod runs to the ground parallel. The vertical rod goes vertically from the lesser part of the door to the above part of the door.

You necessarily do not have to use any tool within the door. Most locks are not hard to pick open or impression. A quality torque wrench used for the key in knob locks it deadbolt does not work when picking a car lock. To create a good torque wrench for a car, grind the little end of the hex wrench.

When the car's model is not familiar, walk around it, and peep through the windows. As you move around the car, ponder on the following:

- Does the car have vent windows (wind wings)
- Is there any space around the trunk or doors where you can insert your opening tool?
- Is there any lock button on the top part of the door?
- What kind of linkage was used?
- Can you enter the vehicle just by taking out the rearview mirror?
- Can the lock assembly be manipulated through the hole beneath the outer door handle?
- What kind of pawl is made use of? For example, locks before 1980 have free-floating pawl, but the ones used now have rigid pawls.

## **Using a J tool**

If the car lock button is at the top of the door, you might have the benefit of opening it with the j tool.

First, put the wedge in between the door window and weather stripping to allow you to have enough space in place of the tool.

Then put the J tool inside the door till it goes beneath the window. After that, twist the tools so that the tip is beneath the lock button. Then carry the lock button up to the open place.

Twist the toll carefully back into the right position where you have inserted it and take out the tool without jerking on it before taking out the wedge.

## **The Long Reach Tool**

If you get familiar with how this tool is used, you will find that it's one of the most useful tools for opening a car. You can unlock about ninety percent of the car with it, even recent models. When you employ the tool, it looks like you have a long and skinny arm. The tools allow you to reach the inside of the crack of a car door to pull, push, press, rotate knobs and buttons. You can use it also to pick up the set of car keys.

To use this long reach tool, first, place the air wedge close to the top of the door to probe the door open well enough to put the tool. At times you might need an additional wedge.

Put on a protective sleeve at the mouth and put the tool into the sleeve. The essence of the protective sleeve is so that the tool will not scratch the car. You can use a plastic label off a soda pop bottle or cardboard.

Lots of the long-reach tools available for sale are 56 inches long, which is not long enough. So, buy the longest one you can get. You can even create your own with a six-foot-long,  $\frac{1}{4}$  inch diameter stainless steel rod. Make a one-inch bend at a 90° angle on one side, then dip the inches bend into some rubber-coated or plastic dip materials so that they can appear with a non-scratch coating.

## **Conclusion**

Lock picking is an enjoyable skill once you master the art well. To become an expert, you have to practice it consistently and daily. When selecting your tools choose quality over quantity. Lock picking security pin is the trickiest task; it almost can make you look like you do not know a thing about lock picking. However, trying it won't hurt a bit.

Have a great time lock picking.