



# A Directory for Telephone Locks

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Technical Editor

In the last year or so, there have been a lot of old pay telephones being brought into locksmith shops to have keys made. This will not be an easy process, since blanks are not available. If great care is used, you might be able to fabricate one with your Dremel and a flat steel blank.

Some of you are probably remembering that for at least the last 40 years, everyone has been telling you that it is against the law to make a pay telephone key. Before the

break-up of Ma Bell, I had occasion to do some research on that subject. My research led me to the General Council of AT&T, and that gentleman told me there was no law governing making keys for pay telephones, but that it was a myth he would really hate to see debunked.

With this in mind, you may proceed to make a key without legal problems. Unless of course, the customer doesn't own the telephone and wants the key to rob the telephones of someone else.

These telephones have spent the last 20 years, or more, somewhere in storage and now have a new use in the rec rooms of the general public. Typically, they will be the type shown in figure one. They were in use as pay telephones until the early 1970's in some areas before they were replaced by more sophisticated devices.

They will have two locks which are generally referred to as the "upper housing" and "lower housing" locks. The upper housing lock controlled access to the operating mechanism of the telephone and the lower housing controlled access to the cash box. The two locks are distinctly different in construction.

Typically, the brand name found on the top of the lower housing will say "Automatic Electric Company", (see figure two), and that will let you know the upper housing lock is a lever lock with six levers. It can be picked clockwise and the bolt tension is applied by the tip of the key. The quality of this lever lock rivals that found in a safe deposit box lock or a European safe lock and picking will not be an easy process. Do not drill the lock. Replacement locks are not available from any source I have found.

As shown in figure three, the entire front of the upper housing can be removed once this lock has been compromised. This is required for the customer to be able to wire the telephone into his system. If you

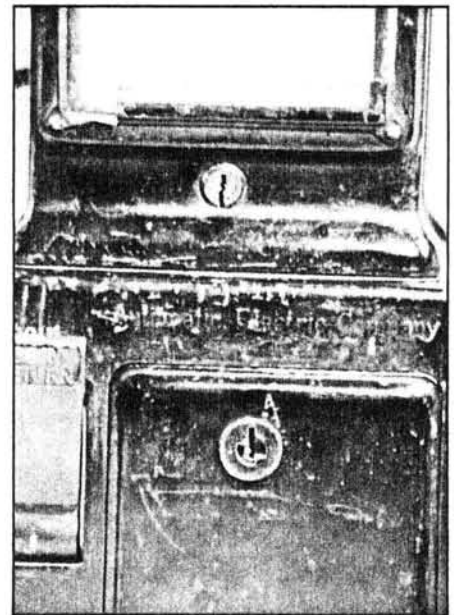


Figure 2

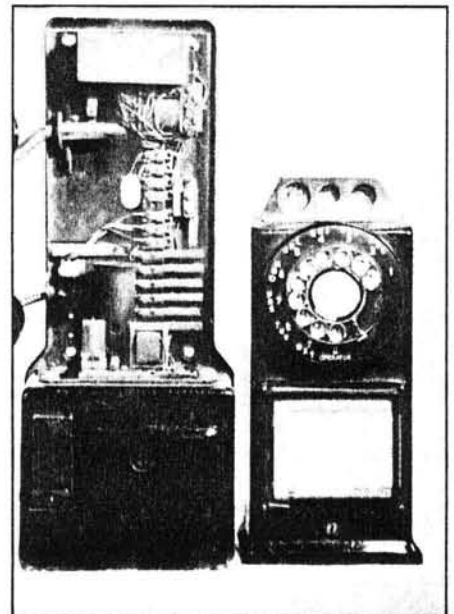


Figure 3

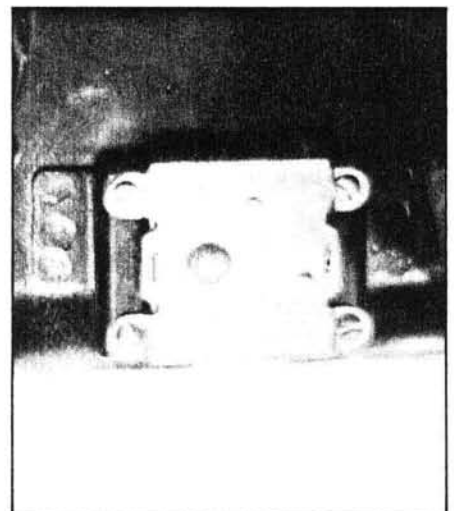


Figure 4

Marginal Comment: Life will make you old.

can't pick the lock, there is one other option. By prying upward on the housing you can see the bolt of the lock and, if very careful, you can saw it in half to get the upper housing free.

I was not allowed to try that, but from measuring, I have determined that the existing .640-inch diameter hole for the nose of the lock could be increased to accommodate a 3/4-inch diameter cam lock. The distance from the front face of the housing to the front of the bolt is .440-inch and the bolt is .150-inch thick.

A cam lock with an extended collar and an offset cam could be used to replace this lock. Figure four shows the present mounting of this lock using four screws to attach it to two brackets.

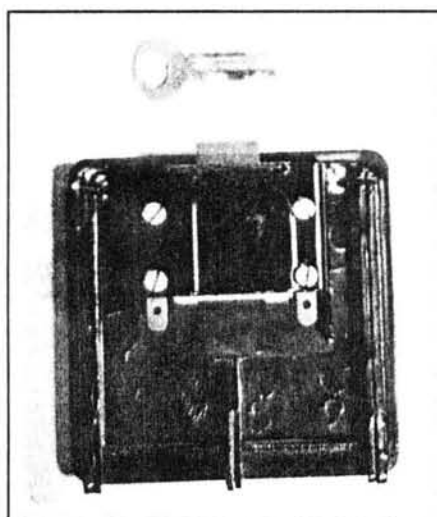


Figure 5

The lower housing lock is a hybrid which has six levers just like the upper housing lock and also has three pin tumblers which are positioned by the bottom of the key. The lower housing is heavy cast steel and the door on the front is held into the unit only by the lock and two lugs at the bottom.

Figure five shows the lower housing door removed and the key for the lower housing lock. This door is heavy cast steel and has a .140-inch thick shroud over the lock face. Picking this lock is much more dif-

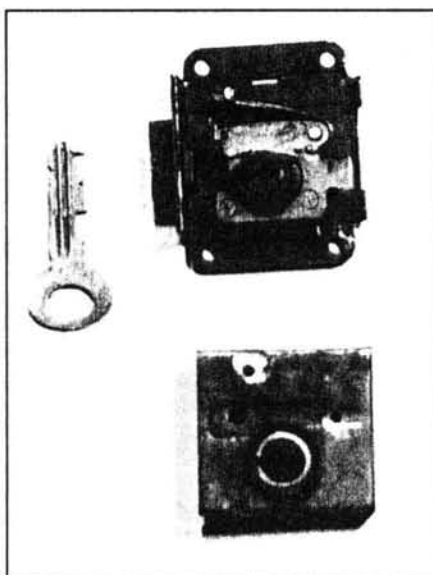


Figure 6

ficult than picking the upper housing lock. The telephone will most likely not have a coin box inside and, because of this, the easiest method for opening will be to drill a 1/2-inch or larger hole in the center of the back of the lower housing. This will allow access to the mounting screws for the lock as shown in figure five. Once these four screws have been removed the lock will fall down releasing the access door.

The lock has a riveted case with the standard peek hole for fitting a key to the levers. In figure six, the case has been removed to show the internal mechanism. Looking into the keyway you will observe some ball bearings in the bottom. These ball bearings are part of the pin stack for the pin tumbler mechanism. The pin stack consists of a

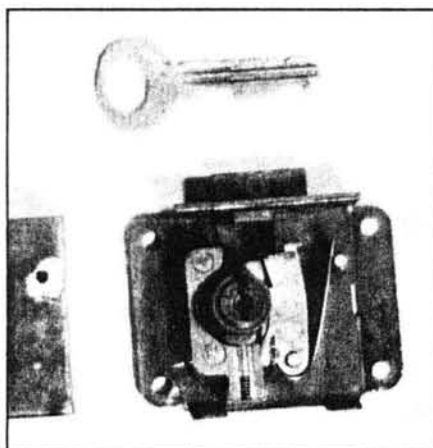


Figure 7

ball bearing which makes contact with the key, a bottom pin which is flat on both ends and a stepped top pin.

Figure seven is a cut-away showing the location of the pins and the step on the top pin is visible. The purpose of the step is to positively locate the pins in the chamber and prevent them from projecting into the keyway too far. You should also note the .255-inch wide throat cut required on the key.

Later model telephones may also be an opportunity for the locksmith.

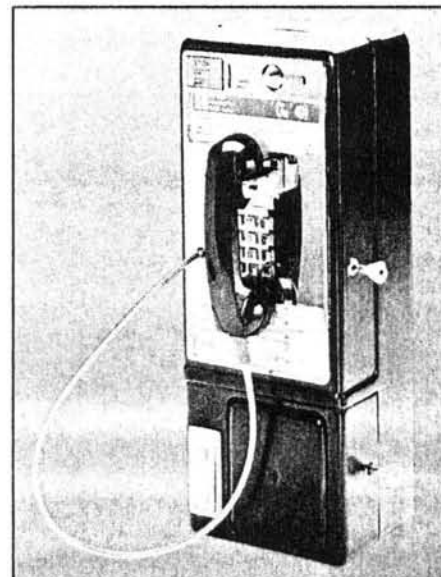


Figure 8

With the break-up of Ma Bell there are many different options available for the pay telephone industry. In many areas there are local companies supplying pay telephones to commercial establishments. Sometimes the telephone is sold outright to the establishment and other times it is installed as part of a route serviced by the private company. In either case, you may be approached to service the locks at some point.

You will usually encounter one of the three major types of pay telephones in the market today. These telephones have the general appearance shown in figure eight. They are generally referred to as the "Western Electric" type, the "Intellicall" type or the "GTE" type.

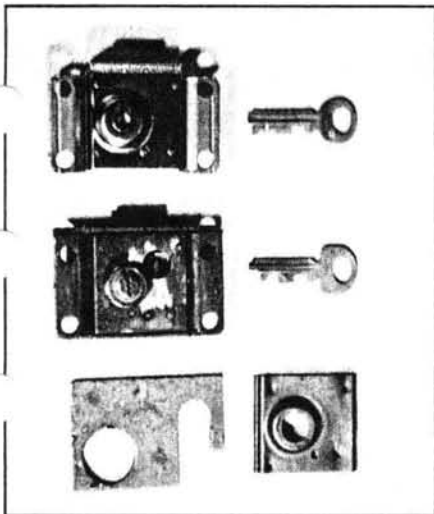


Figure 9

First we will discuss the Western Electric version.

The original locks on this type were made by Western Electric or by Northern Telecom. Western Electric discontinued lock production a few years ago and the lock needs were then met by Northern Telecom. Both locks have the same general appearance and the same mounting specifications, but there are some differences.

Once again, the lock will have a riveted case, but this time there will not be a peek hole for fitting a key to the tumblers. In figure nine, you can see the Northern Telecom lock

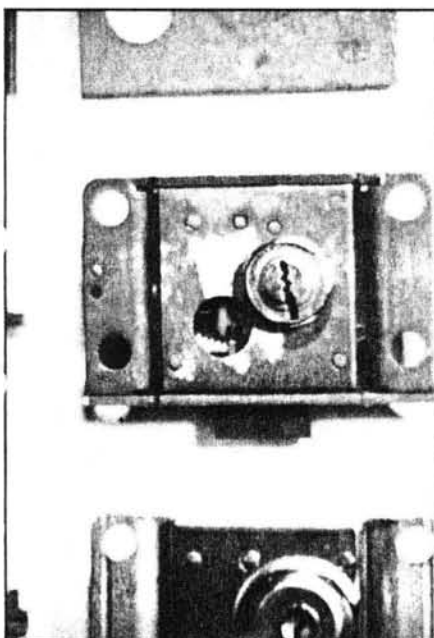


Figure 10

at the top, the Western Electric lock with the case removed in the middle and the hardened anti-drill plate from the lower housing at the bottom. A peek hole has been cut in the Western Electric lock to show the anti-pick mechanism.

Figure 10 allows a better view of the serrated anti-pick device. As the

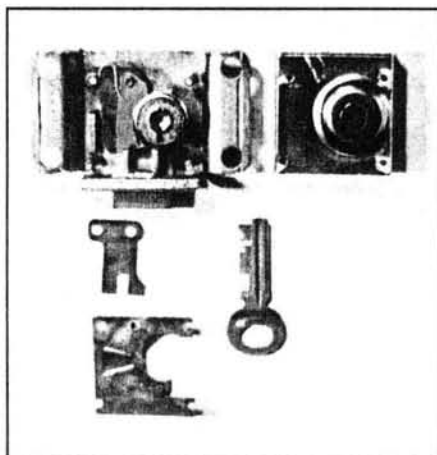


Figure 11

levers are raised into alignment, this serrated arm engages the end of each lever and, if the lever is raised too high, holds it in place until all torque has been removed. This is a very effective anti-pick mechanism.

Figure 11 shows the Northern Telecom lock with the case removed. The copper shield at the left provides spring pressure to keep the levers spaced correctly. There is also a copper spacer between each pair of levers to prevent friction between the levers. As you can see, fitting a key to either lock would be

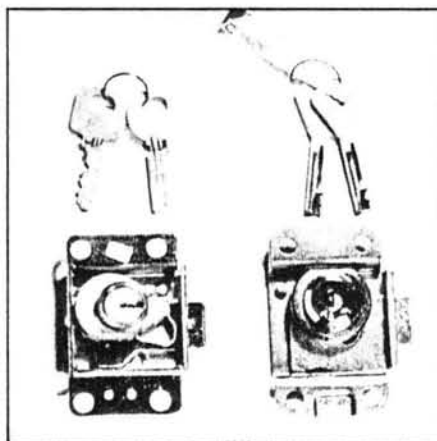


Figure 12

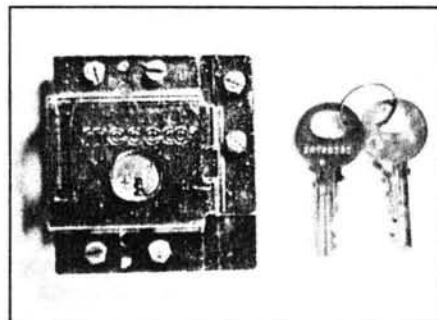


Figure 14A

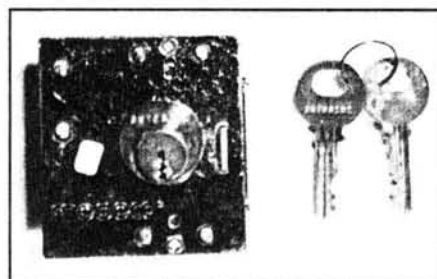


Figure 14B

a long process. In the case of these locks, we are luckier than with the Automatic Electric locks. Replacement locks are available and they are locks which you can service.

Figure 12 shows two replacement locks presently available to the locksmith for retro-fitting the Western Electric Pay telephone. Contact Abloy Security regarding its model 9875 or Medeco regarding its model 22W0250A-25. Medeco also makes available a model with electronic switches and custom cable options for monitored units.

The Intellicall-type phones use a Western Electric/Northern Telecom lock on the lower housing and a different lock for the upper housing. The Abloy replacement model 9291 is shown in figure 13 (shown in the large photo on page 12). Medeco catalog information does not indicate that it makes a replacement of this type.

Figure 14 shows a Medeco model 22W0150A lower housing lock for the GTE type pay telephone and the comparable Abloy model is number 9295. The upper housing lock for the GTE-type phone is shown in figure 15 (seen at the right) with the Abloy model 9611. The



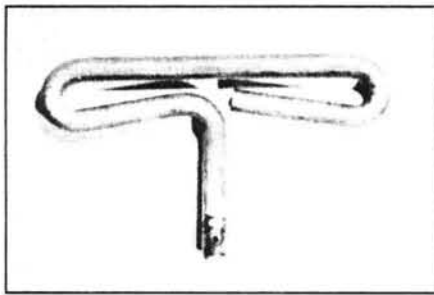


Figure 16

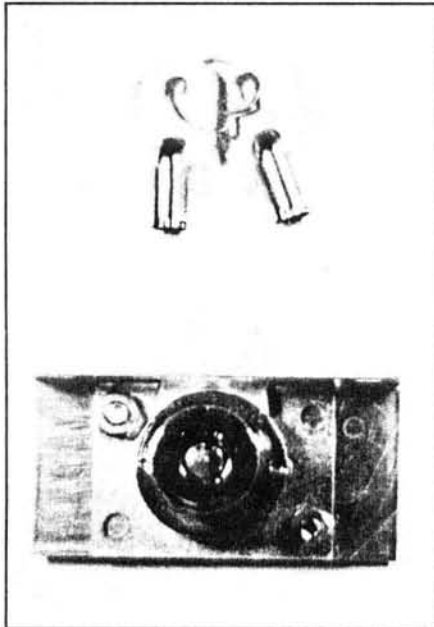


Figure 17

comparable Medeco lock for this use is model 60W0051A.

For the replacement locks, Abloy indicates that it has locks available with the standard keyway, a restricted keyway or the Disklock keyway. Medeco indicates that its replacement locks are only available with restricted keyways.

These new model telephones also require another tool to open the upper or lower housings after the locks have been operated. Figure 16 shows this special tool. You can fabricate one from a piece of 1/4-inch rod by drilling a hole and installing a .130-inch roll pin. The hole centerline should be drilled .175 inches from the end of the rod.

There are also other types of telephone locks in your market. Figure

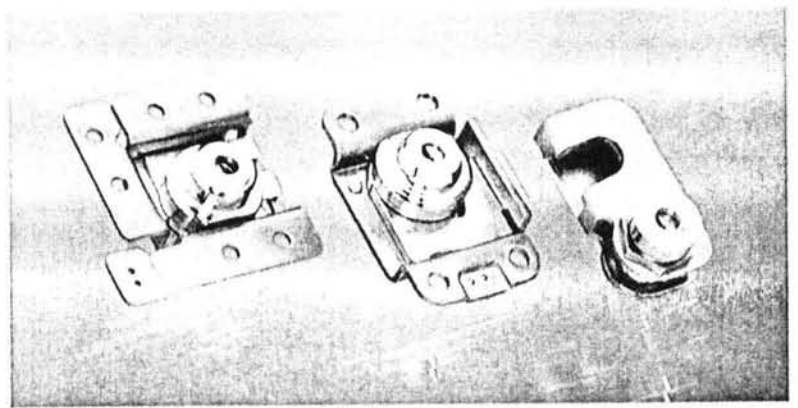


Figure 13

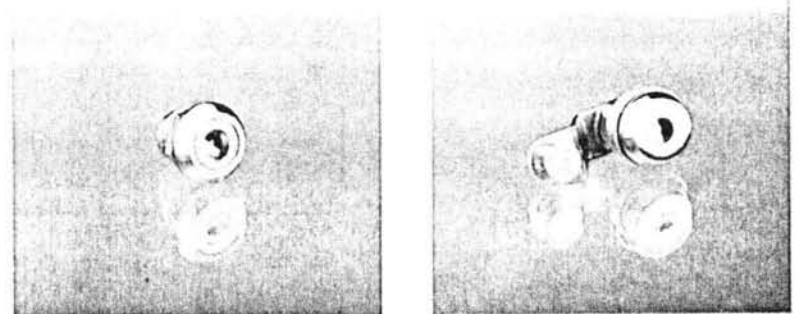
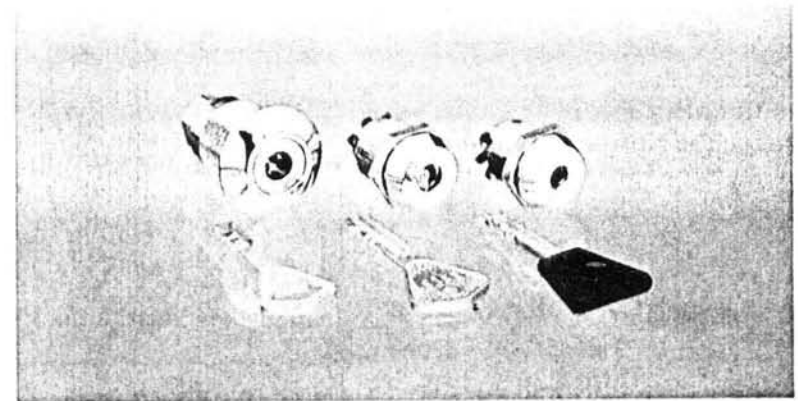


Figure 15

## SECURITY LEVELS



17 shows a Chicago Lock model #101769511 lock for police call boxes. Other companies' locks and other models are out there also; however, there doesn't seem to be anyone servicing them. The standard practice seems to be the "remove and replace" method, which means there is a real opportunity for the locksmith who will search out the work.

### Billy B. Edwards

*Billy Edwards is the author of Master Keying by the Numbers and is currently serving as a technical editor to the Reporter. He was just recently selected for Who's Who In America honors for his outstanding leadership in his field.*

