WITHOUT ANY KEYS NECESSARY

A short guide to opening locks and doors



Introduction

this guide is written for the "jornadas sobre la okupation" held in 2010 in barcelona and is about getting in to buildings and overcoming obstacles as: locks and closed doors and rollergates, there are many different locks, door types, situations that require different techniques, tools and approaches. the most important thing is to observe, analyse and choose what method to use, because every specific problem requires its own specific solution, there are no universal solutions and this guide is just a summary of some of the specific ones, None of this information is new but most of it is tested en known to work (when applied to the specific situation it is for)

Warning!

be aware that these techniques could just as easily be used against you, so be carefull who you share this information with, but more importantly, be aware of the vulnerabillities of your own security and be aware that just having some lock on your door is no garanty of safety

observation

it is a good idea to first look if it is possible to get in without having to break anything, open windows, roof doors, backdoors etc. it is usually easier to change/open locks from the inside, there might even be a spare key lying around, some locks don't need keys to open from the inside

the first and most important thing to do is to go and have a very good look at the lock/door/rollergate that you are trying to get into, if possible take pictures, pay attention to brandnames, size shape and material of the cillinder, is it a "loose" or "fixed" cillinder, eurocillinder, there exist hundreds of different types of locks and manufacturers, or even custom made locks.

The most common brands are: YALE, CISA, LIPS, WOLF, INCESA, TESA,.... most lock manufacturers have websites and online catalogs which could provide you with useful information on how to break them.

So called "euro profile cillinders" are made by different manufacturers but are all one standard size and shape and will fit into any "euro lock". However, there are small variations in the shape of the "lever" or "Q" which is the part of the cillinder that opens or closes the lock. (see illustration)

Other things to pay attention to are: is it a wooden or metal door/frame, if so is it aluminium or steel (use a magnet, aluminium is not magnetic) is it a single or double door, does it open inwards or outwards...is there a mailbox, window etc...

It is always a good idea to push on the door at various heights. By observing how much the door ?gives? you can see which locks are actually locked and to some extent whether the door will be difficult or not.

Non destructive techniques

Non destructive techniques do not result in any significant damage and should be used when possible if the situation and time allow it

These methods make little or no noise but can take some time and practise before used with success

flipper (see illustration) fishing(see illustration) shims(see illustration) climbing

Climbing

The most common method of entering in bcn, even if buildings are bricked up. Many times windows on top floors or roofdoors are forgotten to brick up, Also the use of low quality hollow or thin bricks make it easy to smash a hole quickly without to much noise

When climbing high buildings with front balconys it is worth considering to make a "pole ladder" or fitting a ladder wit a hook strong enough to safely carry the weight of a person., this way the ladder can be pulled up and "hooked" onto the next balcony up, till you get to the floor that is not bricked up.

When inside pull the ladder inside or have someone take it away outside, ladders leaning against empty buildings in the middle of the night look suspicious...

Destructive techniques

There are more or less destructive techniques that are more or less noisy:

Minimal damage techniques:

cillinder breaking with adjustable wrench (little noise)(see illustration)

cillinder pulling (drilling is noisy)(see illustrations of different devices) pulling with crowbar (drilling is noisy) pulling with slide hammer (quite noisy)

pulling the cillinder with special device (locksucker) (chupador de cierraduras)

These devices can be ordered over the internet made by professional locksmithing tool manufacturers, and are called "lock cillinder extraction tools", but are not to hard to make yourself, I have included 4 different ideas/designs to make one yourself, varying in difficulty, but all functional and cheap to make

Using these devices is quiet and reasonably damage-free

Pulling cillinder with a crowbar

When pulling or extracting a "loose cillinder" simply use a big "flathead" screwdriver to bend out the outside ring until you have room to get your crowbar behind the rim of the cillinder. Use a big crowbar (1 meter) to get the proper mamount of leverage. When extracted, most "loose cillinder" operated locks can be simply opened with a flat screwdriver (see illustration)

When pulling a "fixed cillinder" (cillinder is permanently fixed onto the lock), first a hardened steel screw must be iserted into the centre of the cillinder for at least 1 cm. Most cillinders are made out of "brass" (laton) which is a relatively "soft" metal, making it quite easy to drill/screw into After the screw is in place, use the crowbar to pull at the screw, a block of wood can be used to put between door and crowbar to prevent bending/breaking the screw, and to prevent damage to the door

Pulling with slide hammer

Using a slide hammer is a quick but noisy way to break/extract a cillinder, but it is quite simple to build one yourself, with for example a metal bar or pipe and a loose hammerhead or weightlifters weight (see illustration)

Operating the lock

Once you have extracted the cillinder with any of the above techniques, your door is still locked, but can be opened with devices other than a key. In most cases a screwdriver will do the trick, but sometimes a special device must be constructed or improvised in order to open the lock.

There are several different ways and types of levers that different brands and types of cillinders use to operate locks. (see illustration)

Techniques that can cause damage to doors and locks but are relatively quick:

double crowbar technique(see illustration)

doorbreaker (kraakkrik) technique

Doorbreaker (kraakkrik)

The doorbreaker is made out of a car-jack, normally used to lift up a car in order to change a wheel, it can create a lot of pressure without much human effort, a scoop is welded onto the moving part, the scoop is stuck between door and doorframe, turning the handle will slowly push the door in with great force until the lock/door/frame breaks (see illustrations)

CAMOUFLAGE TECHNIQUES

In case you are forced to use the more noisy or destructive methods of opening a door it could be a good idea to hide your activities or draw attention away from it or disguise it as being legitimate..

The banner method:

Make a BIG banner and have a concentration with a group of people in front of the door you are trying to open, and place the banner so that it hides the person/persons doing the breaking, make a lot of noise to distract people from hearing the breaking noises...

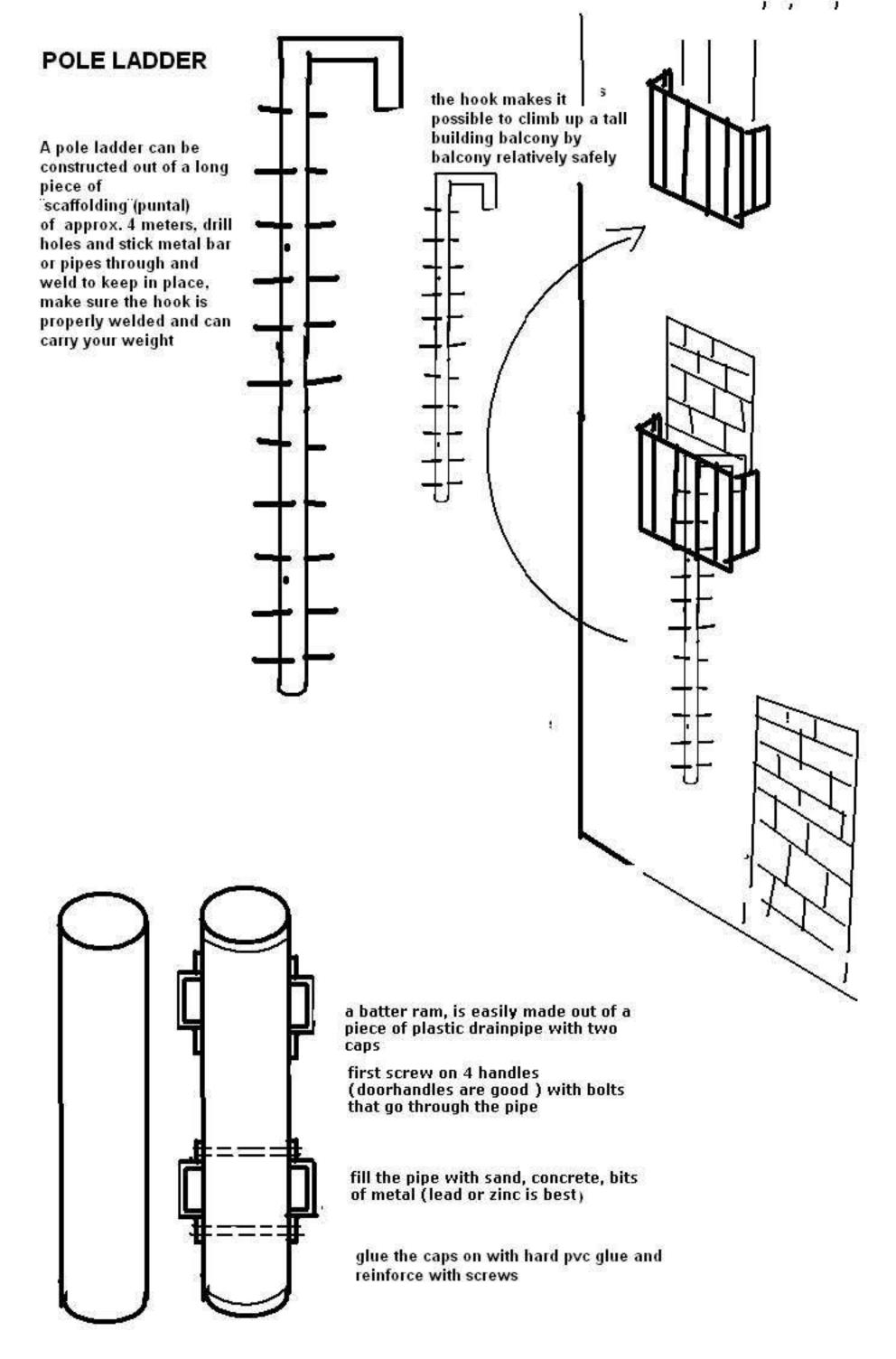
The matrass method

when having to break out bricks of a bricked up building from the inside, have people on the outside holding a mattras against the bricks to muffle the noise and prevent rubble from flying around, have plenty of boxes or crates ready to quickly get rid of rubble, wear gloves!

Dressing up

when convincingly dressed up to look like a obrero (worker) and city official complete with briefcase and papers, you can get away with almost anything in broad daylight, most people will simply assume that what you are doing is legitimate....

Rollergates



The most common way that rollergates are locked is with a lock that operates two bolts that slide sideways into the wall/frame with the lock situated about 30/40cm above the bottom of the gate. These locks are easily opened from the inside by simply unscrewing the 4 screws of the lock-housing and disconnecting the bolts from their operating levers

When the rollergate is locked on the outside with special padlocks it is sometimes quicker and easier to cut a piece out of the gate than to cut the lock

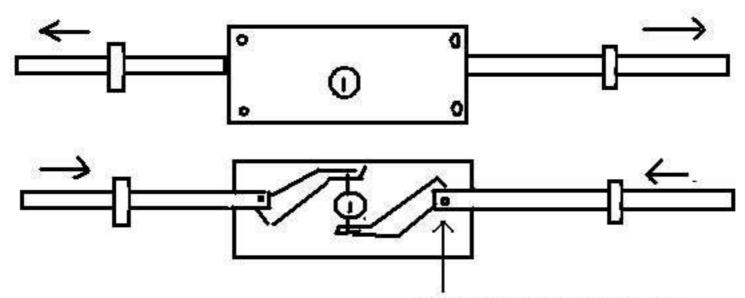
SAFETY

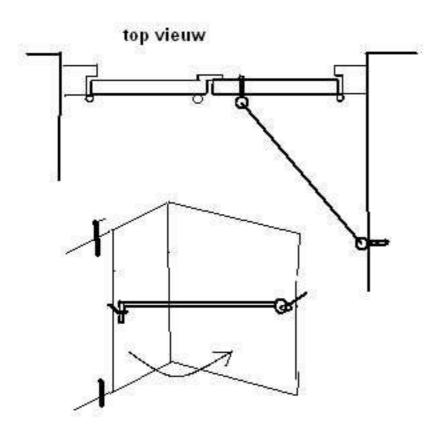
always wear gloves, and safety goggles especially when breaking bricks or glass, fragments can be razor sharp

Technical translation

Lock sucker- chupadodor de cierraduras bolt cutters- zizallas hardened steel screw- tornillo de hierro duro adjustable wrench- llave inglesa cordless drill- teladro autonomo car jack- un gato de coches cillinder- cillindro lock- cierradura key- llave screwdriver- destornillador phillips- estrella flat- plano Bolt- pestillo rollergate- persiana

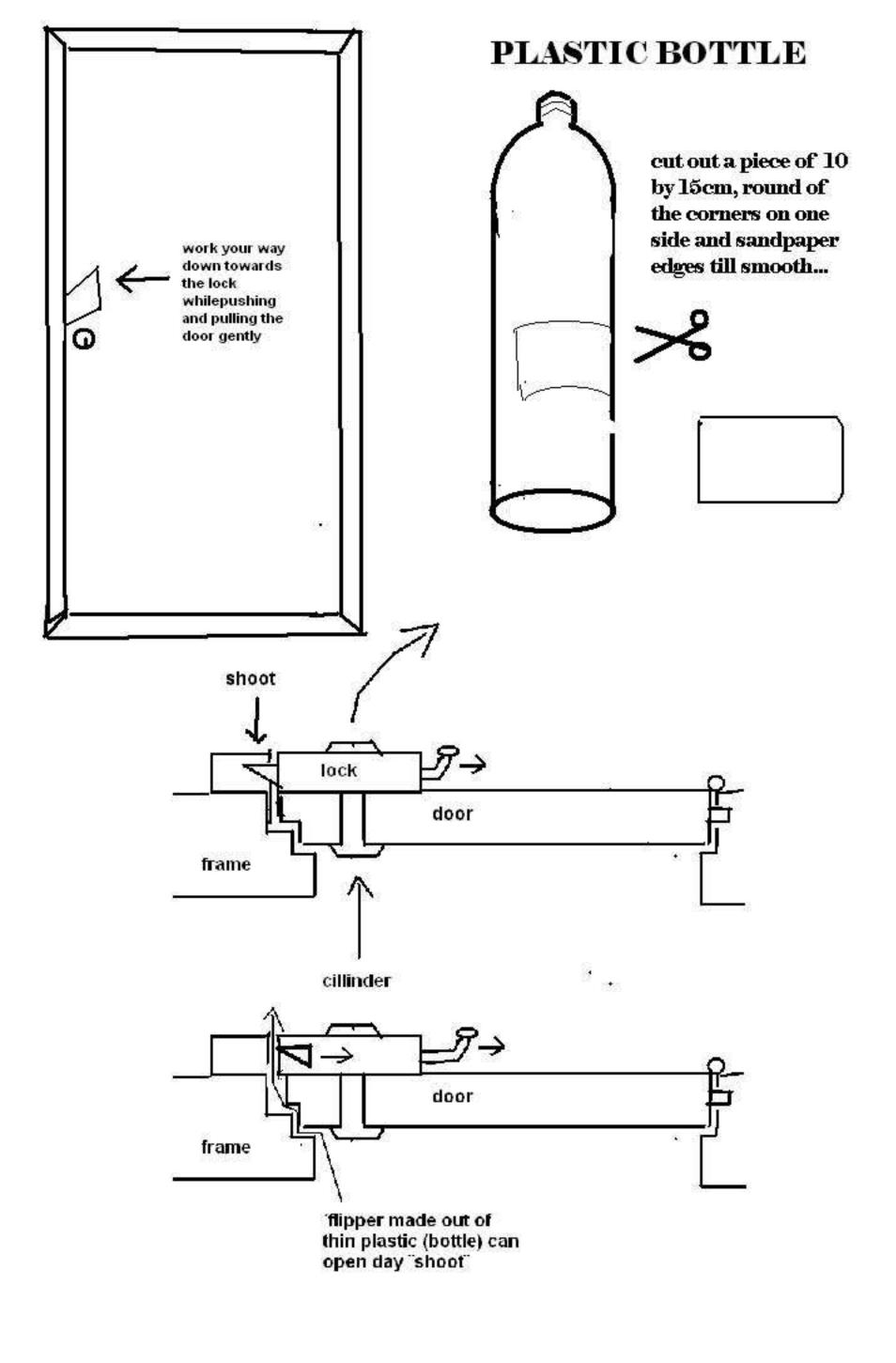
this is what a typical rollergate (persiana) lock looks like when you are inside



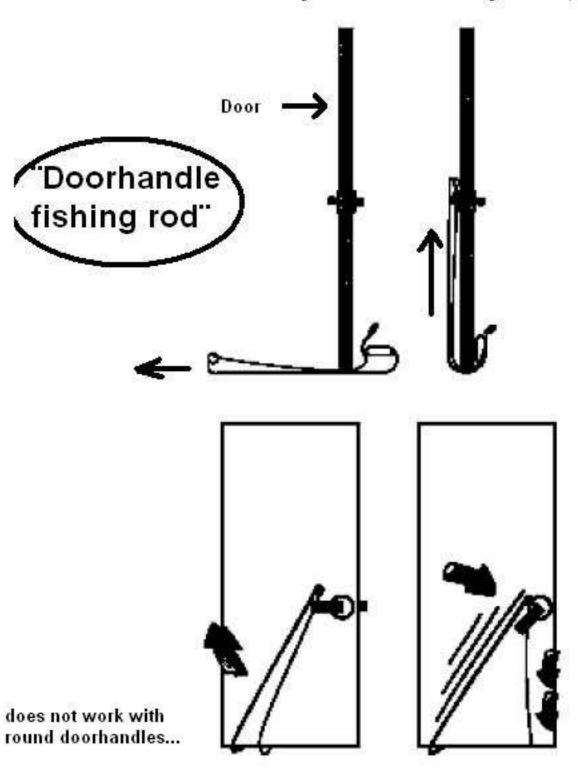


security barricade for double door

after taking out the screws, and removing the back, you can lift the two bars of the levers and slide them towards eachother so the rollergate can be opened



Device to fish for doorhandles on the inside of the door can be handy when door is not fully locked (day mode)

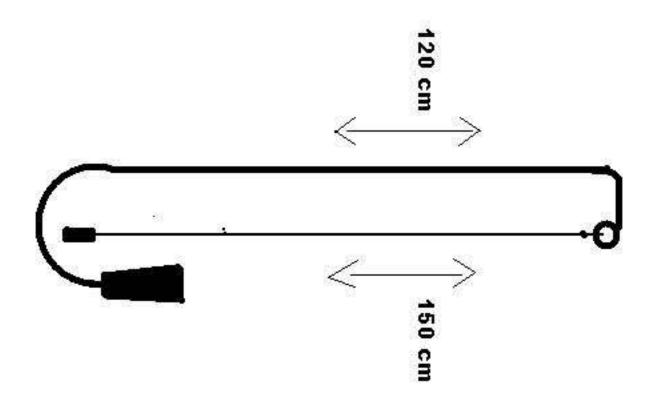


It is made out of two pieces, a piece of metal wire with a curve at one end and a handle and a ring on the other side, and a piece of flexible wire or rope attached to the ring. since doorhandles are worldwide at a standard 105cm the first piece should be about 125-130cm, the string can be longer but not shorter

both pieces are slided sideways under the door on the side opposite of where the handle is, then placed upwards parralel to the door, then it is a matter of fishing tilthe line is on one side of the handle and the wire on the other, move the wire towards the handle side of the door and pull down...



top end of device, the bend goes over the handle....

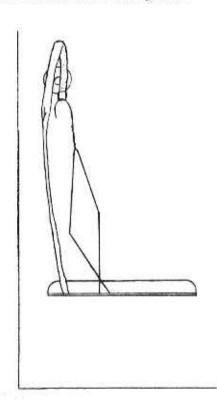


GRABBING THE INSIDE KNOB

Opening a locked knobset with masking tape will bring you a mischievous sense of triumph. There is something silly and clever about defeating a device designed by experts using something as mundane as masking tape.

Doors that lock by pushing in the inside knob and twisting it can be unlocked by twisting that knob the opposite direction. Some brands of knobset will open even when locked, just by turning the inside knob. Oftentimes, a tool can slip through a narrow gap, wrap around the inside knob, stick to it, and twist the handle to unlock the door.

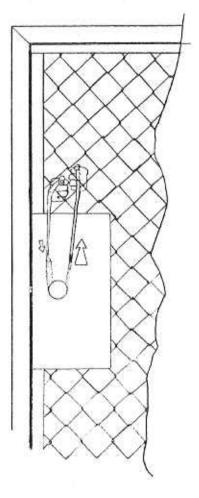
Visual inspection of your progress is helpful. If the door has glass panels or if the inside knob may be seen from another window, take advantage of the opportunity. Having a friend peer in and give verbal directions while you're working will greatly improve your chances if you can't see the knob from where you are.



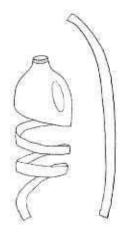
Weather stripping is the enemy. Look for the widest gap you can find. Ideally, this would be a mail slot, pet door, ventilation grate, or open window. Obviously, if the window opens widely enough, you can climb through it, but windows often are made to open just a few inches to prevent that sort of thing. A quarter or half-inch gap several feet away may be much easier to use than jamming a strip of tape, plastic, or wire between the insulation in the doorjamb. One reason why is that you are likely to be using flimsy, improvised tools, and the resistance that friction provides often makes it hard or impossible to guide the tool to your target.



The trick to opening a knobset in this way is to lay a strip of tape on the inside knob and tug to turn it. As a simple example, think of the cagelike metal fences that separate the stairs leading up to apartment units from the parking area beneath them. The knobsets on the fence doors can always be opened from the inside, but you need a key or combination to enter from the parking lot. Usually there is a grate of mesh surrounding the knob to prevent people from reaching through the fence and grasping it. That is an effective measure for keeping intruding hands away, but a grate won't stop a narrow tool. Long strips of tape may be layered on top of each other to increase the strength of the tool, and the resulting strip must be folded lengthwise for most of its length. This is done to add stability to the tool and to prevent the sides from sticking to each other. Leave only the middle five inches unfolded and still sticky, to contact the doorknob. Carefully push the middle part of the tape through the hole and guide it with the



folded over handle ends, one on each side. You have to point the handles down after pushing them in several inches, so the tape goes toward the target. You maneuver the tape so that the sticky side is up and is underneath the knob, with a handle coming up on either side. Then you carefully pull up until the tape is cupping the bottom of the knob. Keeping light, even pressure on one handle, just enough to keep the tape from pulling off, you raise the other handle, turning the knob, and push open the door before letting it go.



When access ports aren't so convenient, masking tape needs a little assistance from milk jugs, draw cords, coat hangers, antennas, or whatever other odds and ends you can use. If you are working with a wide enough gap so that you are free of friction, a coat hanger wire or a piece of string to support the end will suffice to guide the sticky tape to the target. Most situations aren't quite so inviting, however, and may require stiffer, thinner materials that can be fitted through small cracks, around corners, and still be guided to their destination.

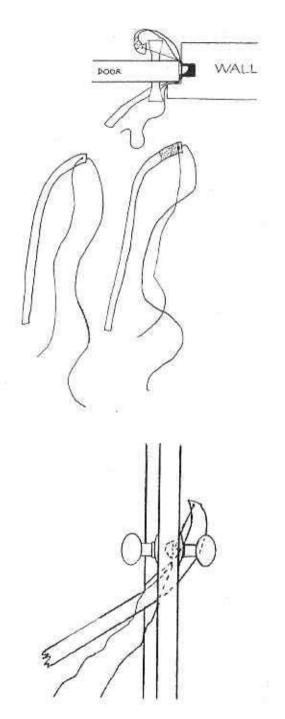
Plastic is an excellent material for worming through cracks. By slicing an empty plastic jar in a spiral or cutting apart a plastic three-ring binder, you can make a long, thin plastic strip. The kind of plastic you use and the way that you cut it is going to affect the tool's performance. You do not want it to curl too easily or you won't be able to control it. Plastic milk jugs work reasonably well, and so do the plastic slats of cheap mini blinds. Wherever you can find thin plastic that can be cut into shape, you have a potential tool. You may be able to buy a plastic sheet at an art supply store. It doesn't really matter where you get it, so long as you can make it perform. The plastic cannot be too stiff or too thick. Experiment and find out what works best for you.

You want the strip to curve when laid out flat, in order to get the best performance. If it is straight, it will be extremely difficult to use it to grab a doorknob, although it is fine if you want to open lever doors. Don't make the curve too sharp or you won't be able to push it through the gap at the edge of the door.

Play around with the plastic strip closed in an interior door to get the a feel for what you will be doing, and get a grasp of the difficulties.

Once you have a plastic strip, close it in the door, half inside and half outside. You usually can push it further in, pull it out, and tilt it upward and downward. Weather stripping will make it difficult, but the effort and control you put into it determines how much friction you can still operate under. Some people give up easily or fold the plastic in their attempts and fail. Use finesse and be persistent.

Pull the strip all the way out, then work it back into the space between the door and the sill until it is sticking through on the other side. This isn't very easy, but it can be done with most doors. A couple of tips: Most of the time it is easier to insert the tool a couple of feet above or below the latch, where the gap is looser. Also, if you bend the very tip of the tool so that it fits around the corner of the door, it will slip around the sill with less likelihood of getting stuck.



A useful alternative exists if this isn't working for you. It can be hard to get the tip of the tool through the edge of the door with the string in place. Another option is to slip the first few inches under the door, over to the edge, and slide it up the doorsill from the bottom.

Of course, having a strip of plastic poking through the sill next to the doorknob doesn't open the door, but it's a step. To control it, you need a string. If your strip of plastic is a long, thin rectangle with one droopy end, poke a hole into that end and put a string through it. Do your best to make a round hole, as they are less likely to tear. Thin, strong stuff After positioning the tool over the lever handle and sliding the bottom over so the tool connects with the lever, pull down on the string to open the door.

When vertical the tool should be a couple of inches higher than the lever handle.

like packaging string or the kind on mini blinds works well. If it is too fat, it won't make it around the sill, and if it is too weak, it will snap when you need it to hold. The flat laces for men's dress shoes, thin rawhide strips, and high-test fishing line can be made to perform well with modification.

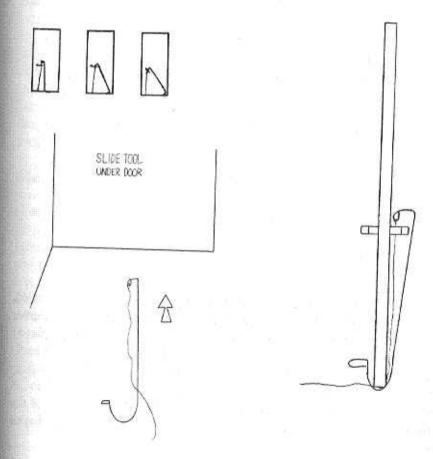
When you push the plastic strip with the string into the jamb, give the string as much slack as you can. Pulling on the string bends the plastic in toward the door. Once it is bent around the knob, pulling the string and strip out at different angles should wrap the strip against part of the knob.

Where's the masking tape? That depends upon how big of a gap you have to cope with and how you decide to work it. A good spot is about two inches behind the hole for the string, on one side of the plastic strip. By carefully wrapping and folding the tape, you can get a flat profile with an inch or so sticky side out. Make it as unobtrusive as possible and in a lot of cases you can slip it right in on the side that touches the door. If the door is too tight or you are too sloppy to do this, tightly spiral some tape, well attached but with a sticky surface, around the string. The trick then is to loop the doorknob with the string instead of the plastic and string together. This is a little tougher, but feasible. Then pull one end of the string until the sticky part is in place against the hole in the plastic strip. Maneuver it around so that the sticky part has a good bite on the wide part of the knob, and pull both ends of the string with one hand and the strip with the other to turn the knob.

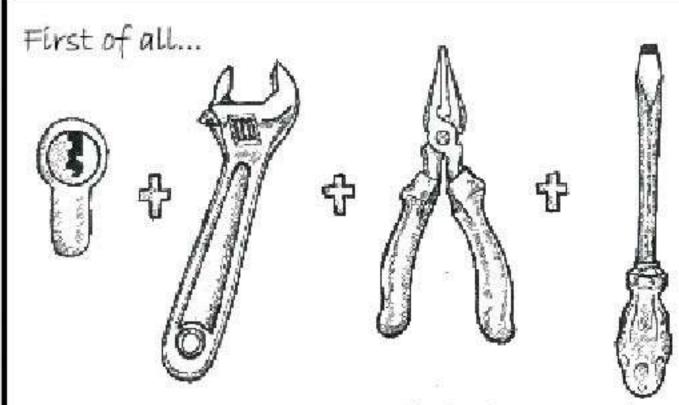
Tape will work with a lot of interior doors, but oftentimes will get torn off when doors have weather stripping. A light coating of something sticky (tree pitch, road tar, rubber cement, chewing gum, spray adhesive, etc.) on a several inch patch of the string will make it grab pretty well. Don't try to put this part of the string through the gap until you've looped the knob with the string and can *pull* one end until the sticky part is in position on the other side of the door. The reason to keep the string long is twofold – it allows you to feed the sticky section when you need it, and it lies flatter than a knot does. It is tough to push a knotted string on the end of the strip through the door.

Practice the plastic strip method on a door where there is a window to see the inside knob. If you can't do it with the door closed, try it with the door almost all the way closed. It is important to get the technique down before making a judgment on the method. There are doors where this is a great way to bypass the lock and others where it won't work. A lot of doors fall in between. Materials and skill are important with this one.

LEVER DOORS



How to break a rounded cylinder lock

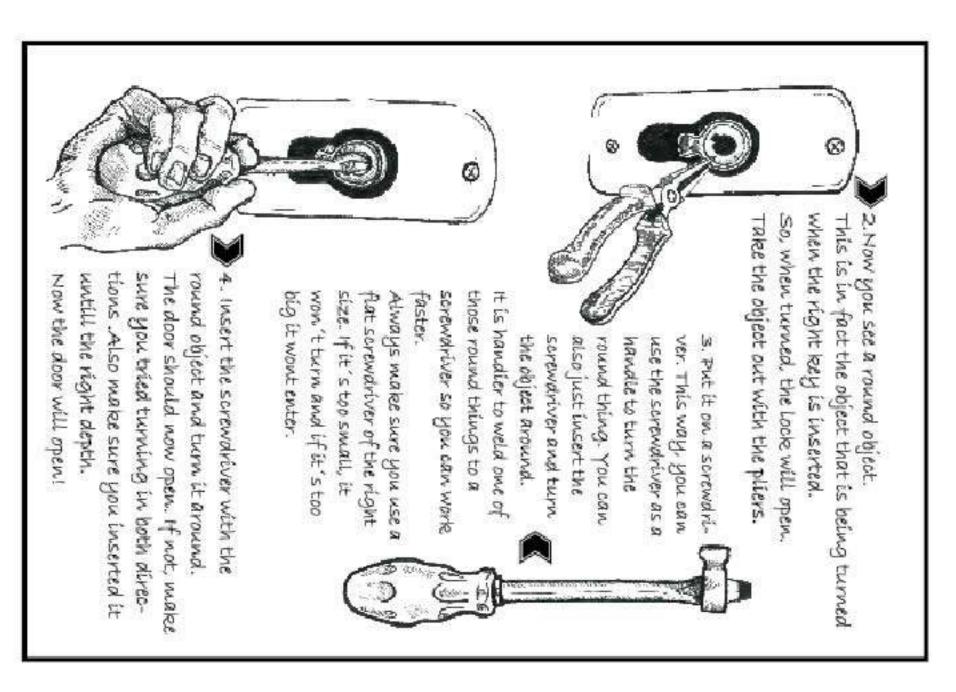


...the tools you need.

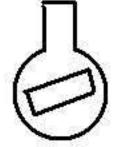
and now follow the steps

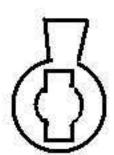


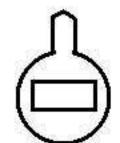
1. Grab the lower part of the lock with the mankey wrench. (if that's imposible because the part of the lock sticking out is too shallow, break off the cover around the lock by putting a screwdriver or crowbar under it. use force!) Now move the wrench softly left and right a few times, creating some movement. After this, use force and push the wrench to one side, breaking off the front part of the lock.



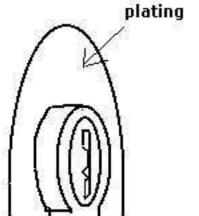
"Q" variations

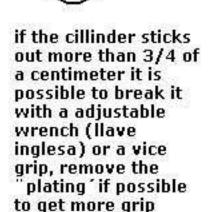






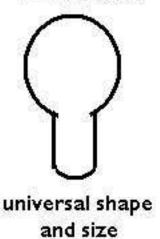
The shape of the hole the "euro cillinder fits into is universal for any brand, however there are some variations in the shape of the "Q" shaped part in the middle of the cillinder, as shown here



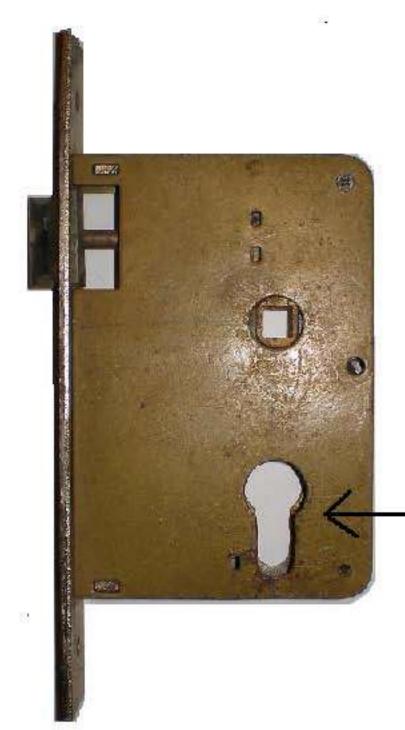


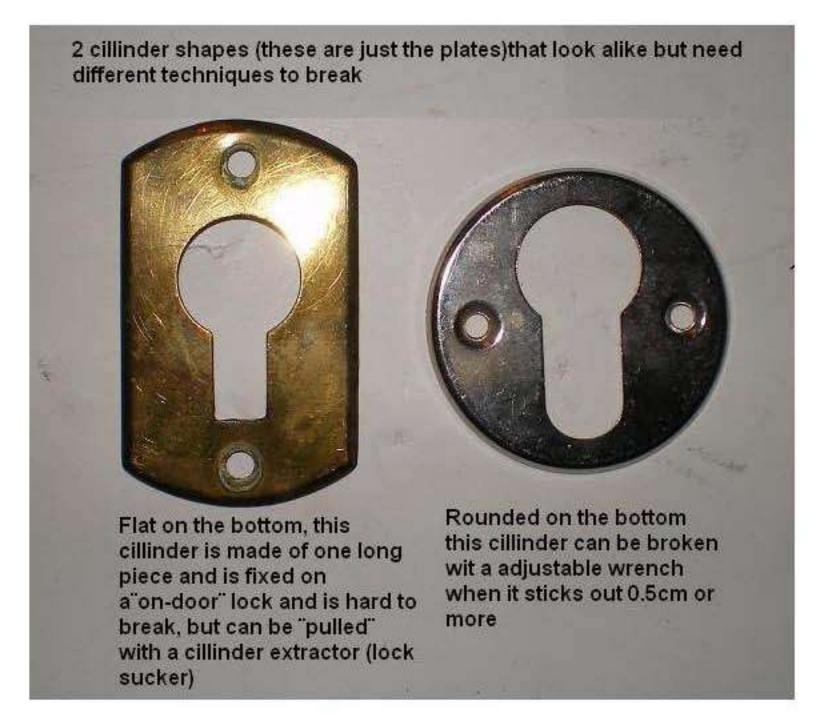




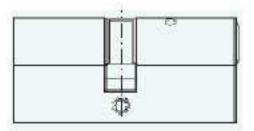




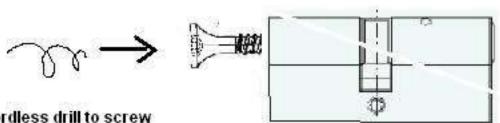




pre- drill max 2 cm into the keyhole with drill bit smaller in diameter then the screw...

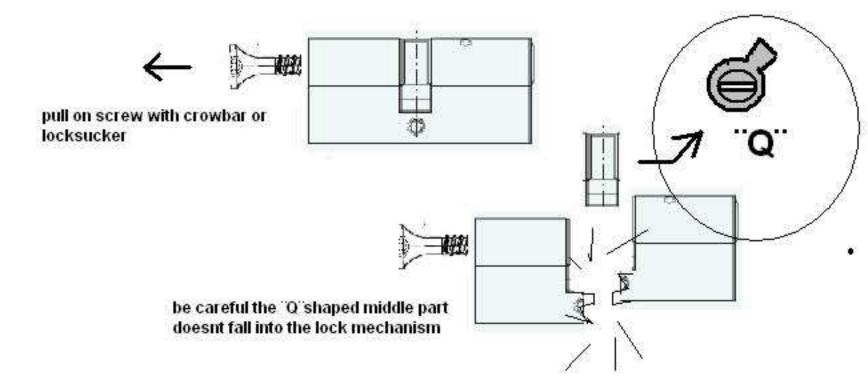






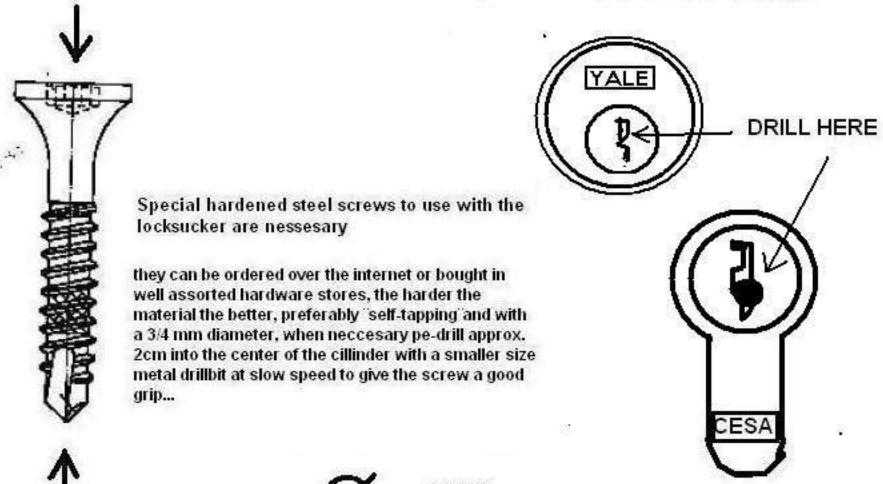


use cordless drill to screw into cillinder

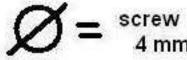


screw uses a 'TORX' type screw bit

specifications: (Torx-20) 1,4 KN



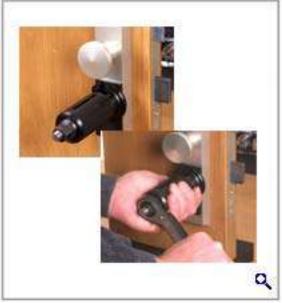
self tapping end that functions as a drill bit



Tutorial: Building and using a cilinder pulley

This is a homemade cilinder pulley. To the right is a professional one.





It is a fast, clean and relatively silent way to open a door. It involves driving a strong screw in the cylinder and pulling it out with the pulley, extracting the cylinder, to expose the inner workings of the lock. It works on (nearly) every lock with a cylinder in it.

A simple homemade cylinder pulley could be made with a sturdy piece of metal with a hole in it, big enough to let the threading of a screw through, but locking the head of the screw. Around the hole, other holes with threading (i.e. nuts welded on) must be made for large bolts. These bolts can than be screwed in to 'push' the metal plate from the door and thus extracting the screw and the cylinder. This is the simplest form of a cylinder pulley. The disadvantages are that it is somewhat unstable and you need to screw multiple bolts turn by turn. The cylinder pulley pictured above left is derivated from a professional one as pictured next to it. It is more stable, strong, and quicker.

Still, all cylinder pulleys need a screw drilled in the lock (noise, need of powerful tool) and special (extra strong, self tapping) screws are advisable to use. Also, when the cylinder is pulled out, the lock isn't open yet. A little knowledge about the internal mechanics of locks is necessary.

Using the cylinder pulley

The screw

The first thing to do is drilling the screw in the cylinder. With the special screws (to be found and bought on the internet) drilling a pre-hole isn't necessary. If you use other screws, take a drill bit that's a millimeter smaller/thinner than the screw, so the threading still has grip. You can start drilling/screwing in the middle of the opening in the cylinder, where the key goes in. don't drill at the bottom, because usually that's where the pins are and they can jam the cylinder.



The trick is to let the screw find it's way on the cylinder (or use a center point to make a starting point). Don't use much force and let the screw spin at medium speed, like a metal drill bit. You can dip the point of the screw in some drilling oil (only drilling oil). It is hard to keep the screw aligned, meaning going straight into the cylinder and not on an angle, without cutting your hand on the threading. Practice, practice, practice, practice...

When the screw has drilled itself in up to the threading, go real slow and push real hard, so the bit won't slip out of the head of the screw. It is advisable not to use philips (cross) heads and bits, but torq or bolt-head (??). The threading will make the screw drive itself in, if you go to fast you will @#\$% up the threading. Sometimes going back a little helps, because it allows the accumulated metal fragments to be released out of the hole. The special screws have canals (??) for that purpose.

Try to get the screw in as far as possible, safe for 5-10 millimeter. 10 millimeter of threading in is a minimum. The further the better, because: more threading, more grip. Then again, you shouldn't go beyond the cylinder, which is usually about 25 to 60 millimeter. Screws shouldn't be much longer.

The pulley

Put the pulley over the screw's head and lock it in the smaller hole. Pull back to make sure the head is secured in the small hole. Start screwing the bolt (clockwise, by hand) until the casing of the pulley is on the door. It should now look like the first photo of this document.



It is advisable to use a little plate with a hole to prevent the sharp edges of the casing from going into the door instead of the cylinder out. The plate must either fit perfectly around the cylinder, or just around the whole piece of lock sticking out. The first option is sometimes advantageous because it will be easier to open the lock, sometimes it's the other way around. Don't use a plate that's too big, because usually there isn't much room to plant the plate on the surface of the door.

Once the pulley is in position, use a wrench or key to screw the bolt tighter and tighter until you hear the sound of the cylinder breaking. Remove the pulley. Don't allow the pulley to turn clockwise with the bolt too much. Using a well greased bearing is important.

Opening the lock Now you should see something like this



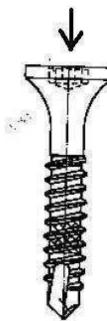
The inner mechanics of locks can be very different. In a lot of cases, like in this one, there's a rectangular slot that you can stick a flat screwdriver in and turn to open. This isn't always the case, though. The lock in the picture has this slot, but in this case the little round piece of metal that the slot is in can fall out if pressed too hard. Then there are other shapes of slots, like 2 round slots, for which you'll need very small pliers or a pre-fabricated tool/key, or the locks without a 'box' on the inside of the door, wich have a 'Q' shaped device where you can stick a screwdriver in (altough generally these can be opened faster without using the cylinder pulley). Try to get familiar with the inner mechanics of different kinds of locks by collecting old ones and opening them up carefully. There's a lot of springs in there that tend to pop out in all directions when opening.

A tip for all the locks with 'boxes' is that the piece of metal physically locking the door is usually moved by a set of big 'teeth', as can be seen in the encircled part on the picture below.



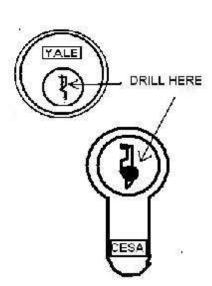
The pieces that lock the door are the pieces with an arrow drawn over them. When you pulled the cylinder you should in most cases be able to go 'fishing' for the teeth by sticking a screwdriver through the door (ending up in the 'box') and move it down until it's in between 2 of the 'teeth'. Than moving the screwdriver left should open the door. Note that there's also the upper piece, which is connected to the 'teeth' (the X is drawn there), but sometimes it gets loose and you have to go fishing for that seperately.

This is just a little hint on how to open these locks and it will not cover all locks and all problems. Even if it would it's impossible to get this right the first time, so collect all kinds of locks and practice.



Special hardened steel screws to use with the locksucker are nessesary

they can be ordered over the internet or bought in well assorted hardware stores, the harder the material the better, preferably "self-tapping" and with a 3/4 mm diameter, when neccesary pe-drill approx. 2cm into the center of the cillinder with a smaller size metal drillbit at slow speed to give the screw a good grip...



:



$$\emptyset = \frac{\text{screw}}{4 \text{ mm}}$$

$$\emptyset = \frac{\text{drill bit}}{3 \text{ mm}}$$





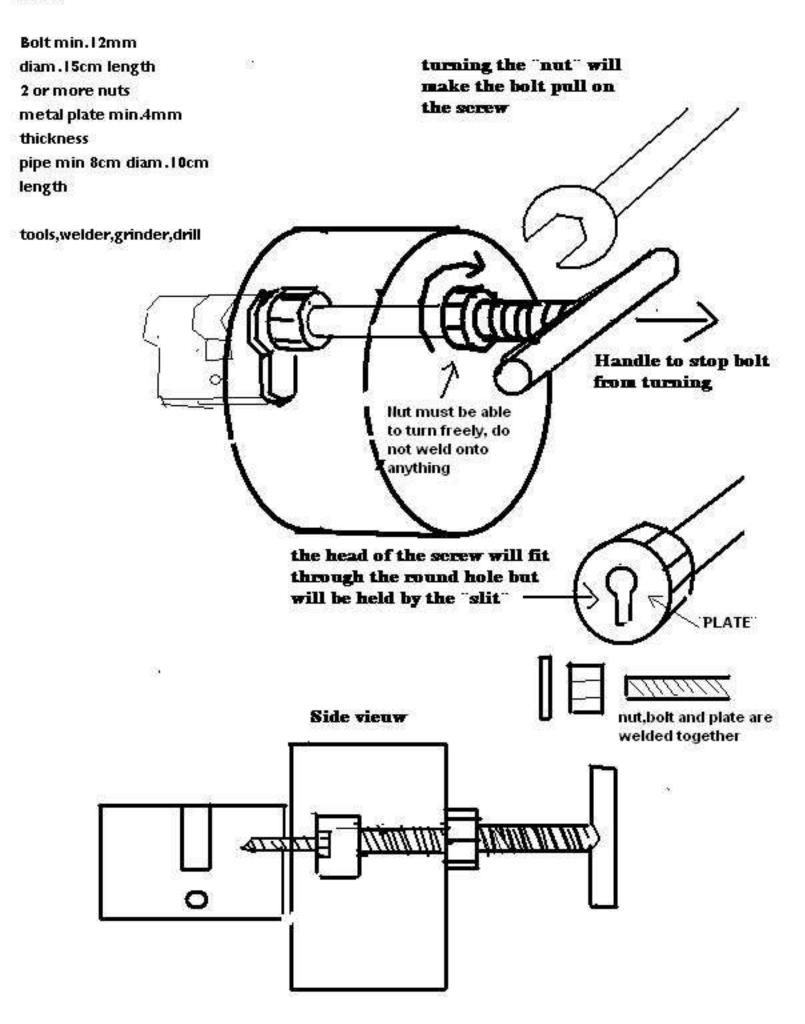




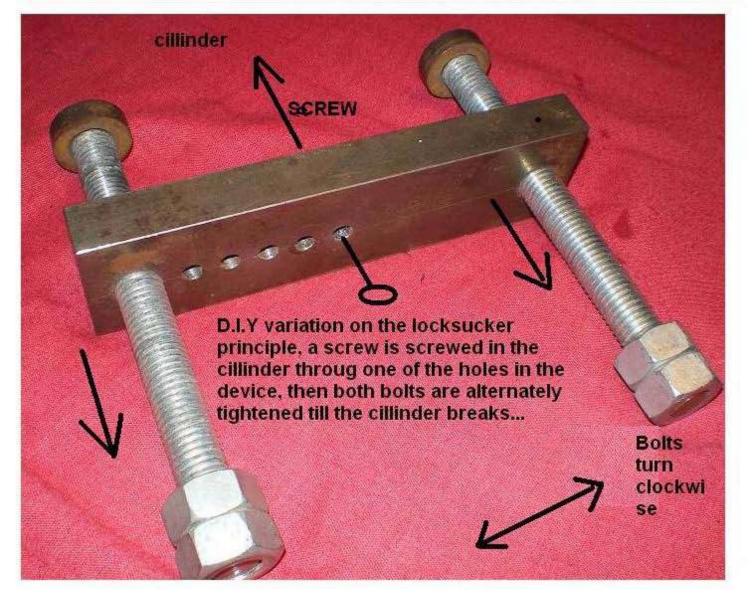
- |- top view
- 2- wrench (llave inglesa)
- 3- torq-bit
- 4 hardened screws, torq and phillips
- 5- protection plate to prevent damage to door
- 6- top vieuw of nut with plate
- 7- washers, rings and bicicle ball bearings
- 8- housing
- 9- bolt
- 10- inside vieuw of nut with plate
- II- side vieuw of assembled tool
- 12- bottom view



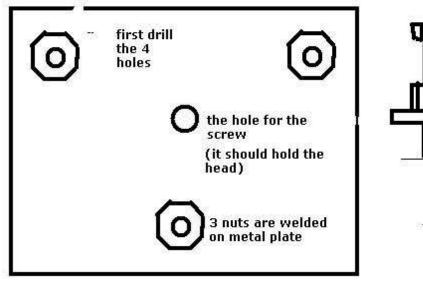
to make this device you need:

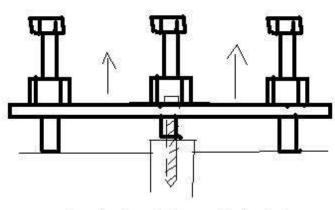


Again, this device works on the "cork screw" principle, a hardened steel screw is inserted into the cillinder (lcm min.) and is pulled out, breaking the cillinder or extracting the cillinder core, giving access to the lock opening mechanism

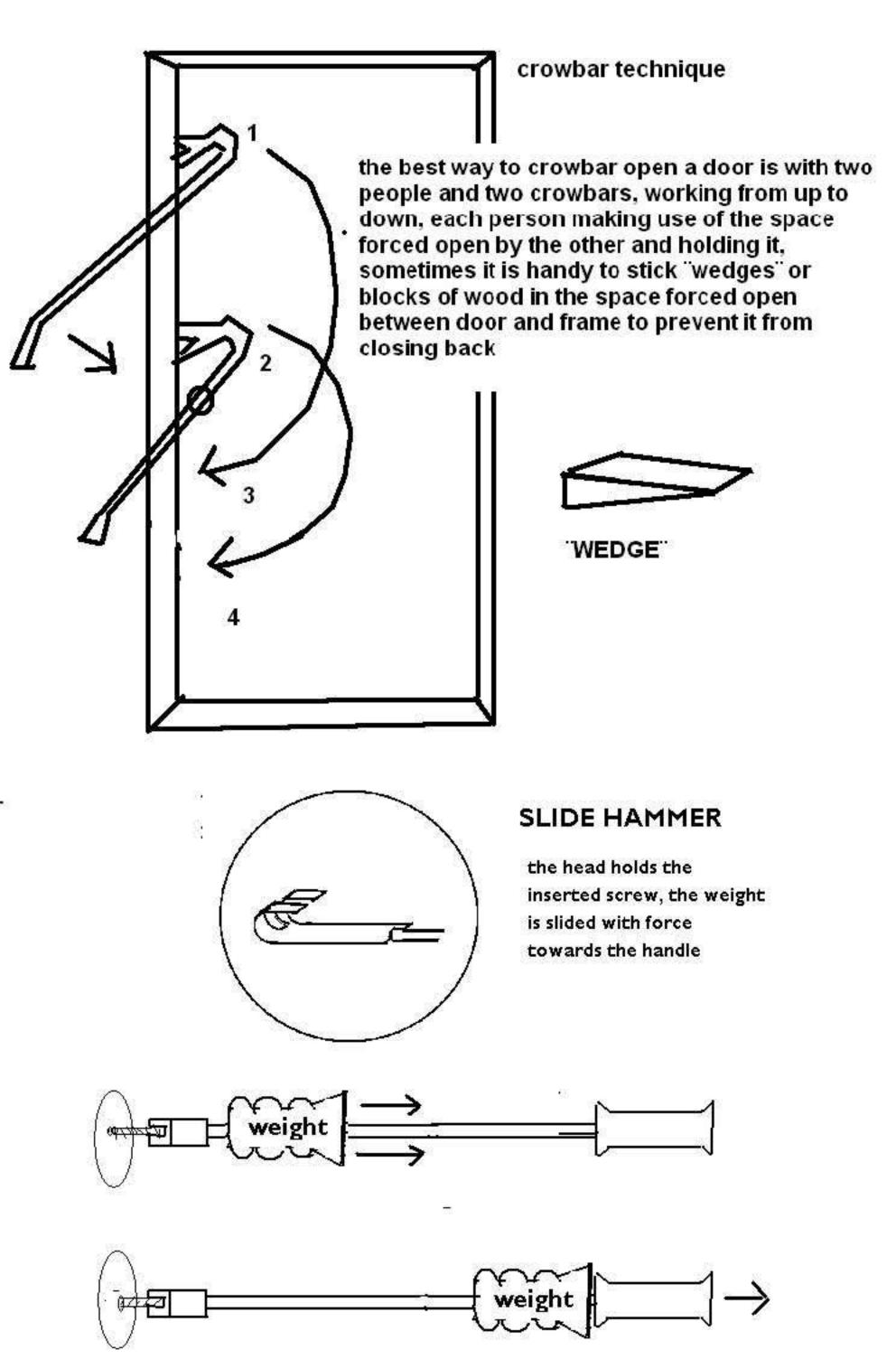


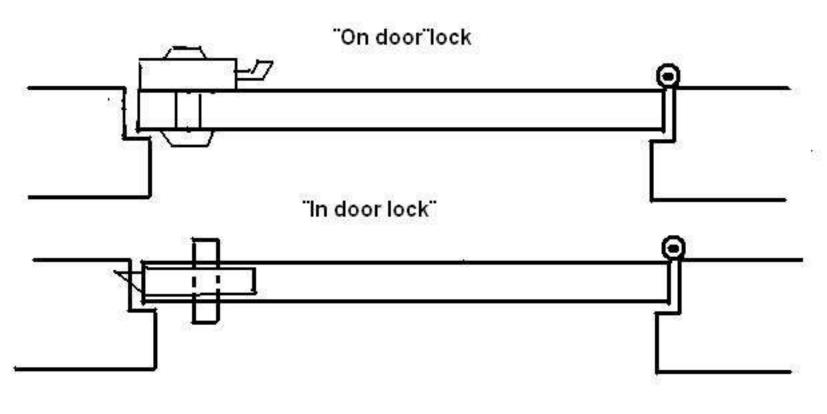
this is a design for a cillinder pulling device that is easy to make and doesnt require any specialist tools or materials

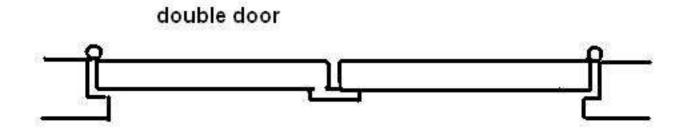




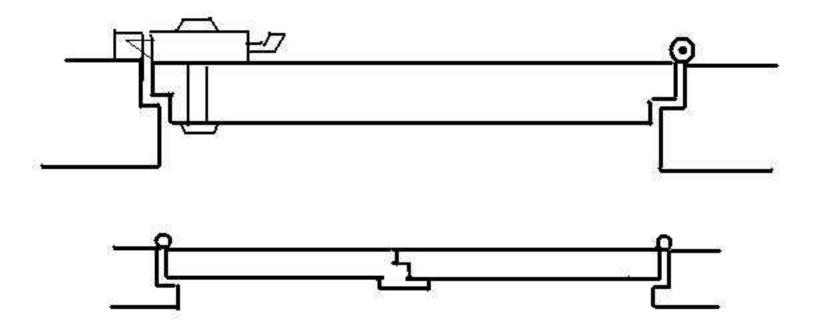
turning the three bolts evenly clockwise will slowly increase the pull till the cillinder is broken or extracted

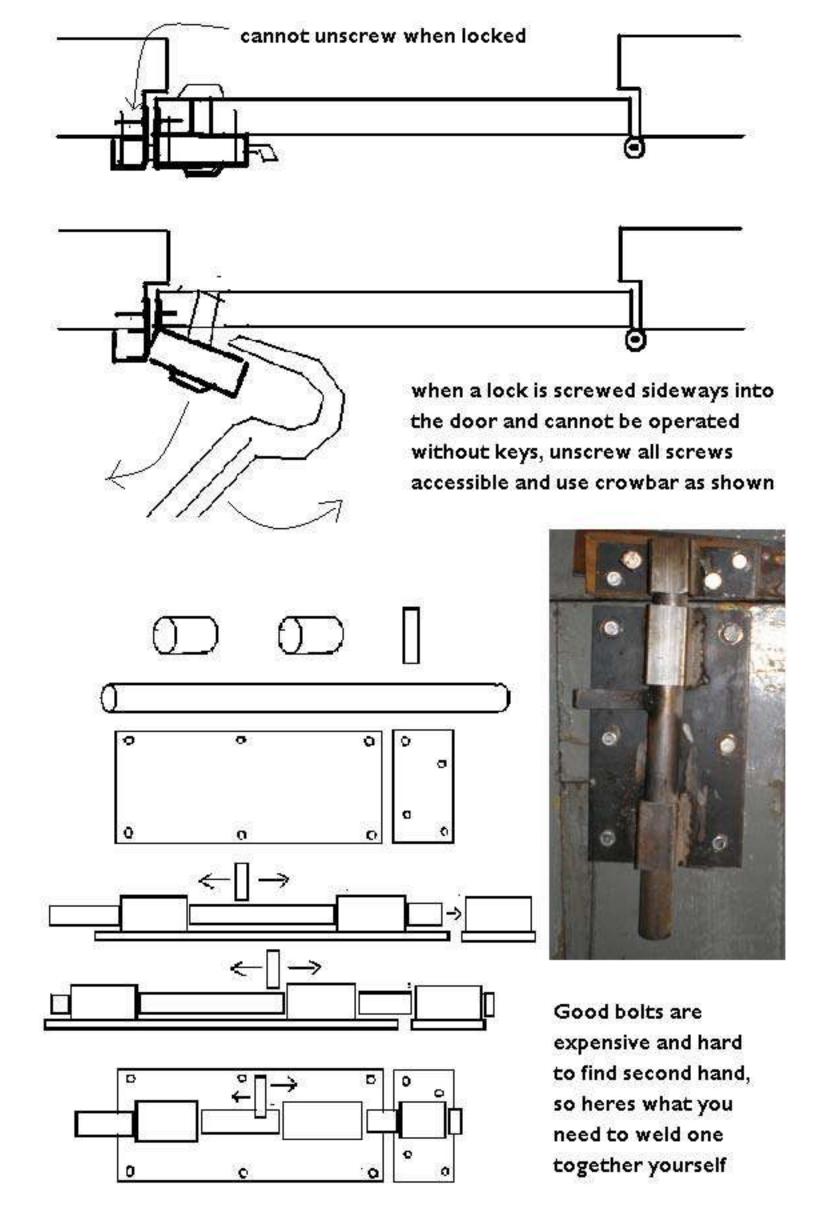






DOOR / FRAME VARIATION





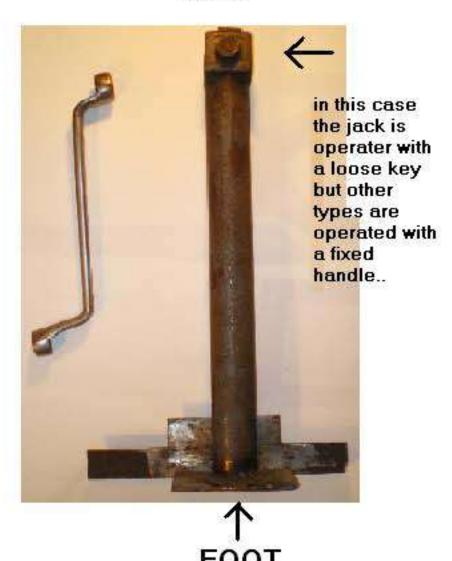
This is a commercially made doorbreaker by a dutch company that sels locksmith tools, the principle working is the same as the selfmade device below, the lock is put under mechanical pressure that can be buildt up slowly with little human effort untill it breaks. the tool is operated by a key or ratchet ...



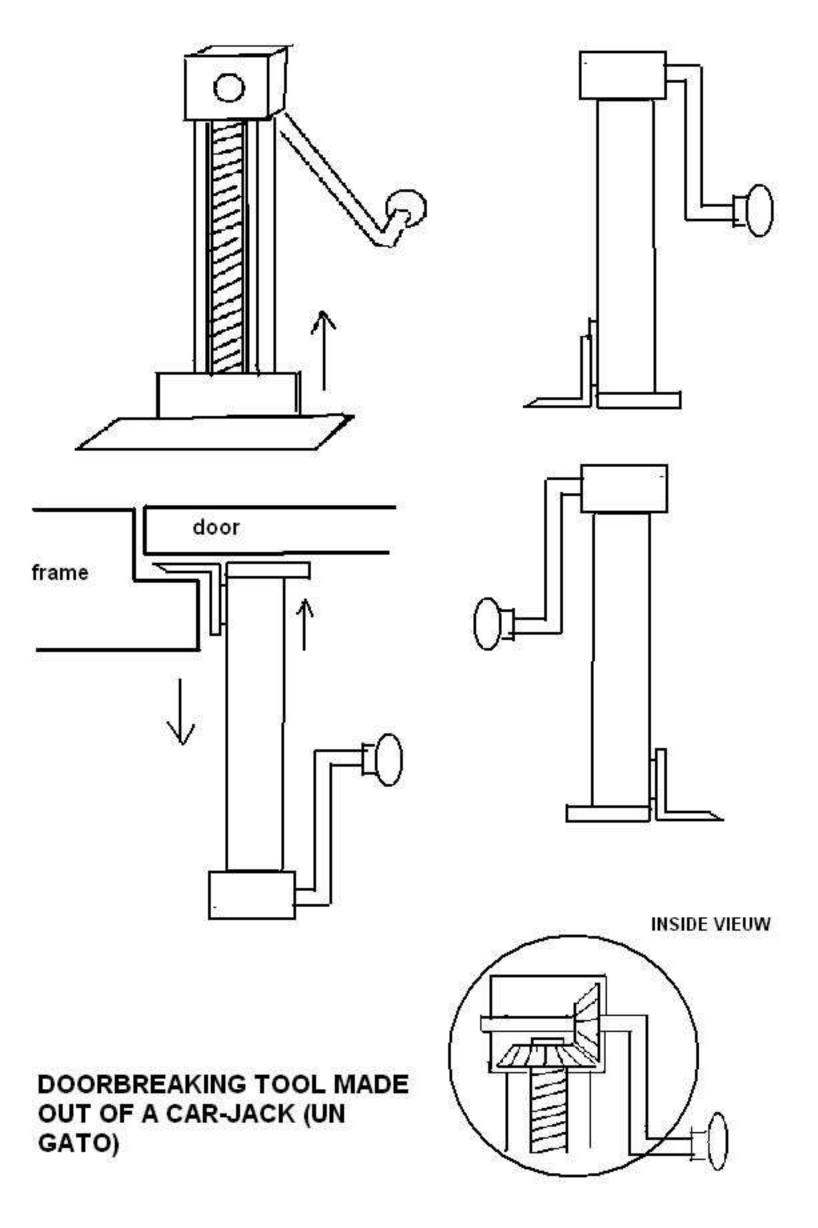
This is a self made doorbreaker made out of a car-jack, can be made of any brand carjack that works on the same principle... can be found for sale at car cemetaries, garages or 2nd hand car dealers. A scoop is welded on the moving part that can be placed between door and doorframe, a foot that has "Grip" is welded on the bottom so it wont slip when pushing in the door until the lock breaks...

BACK

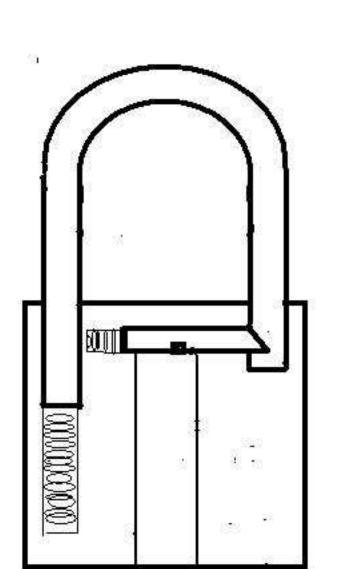


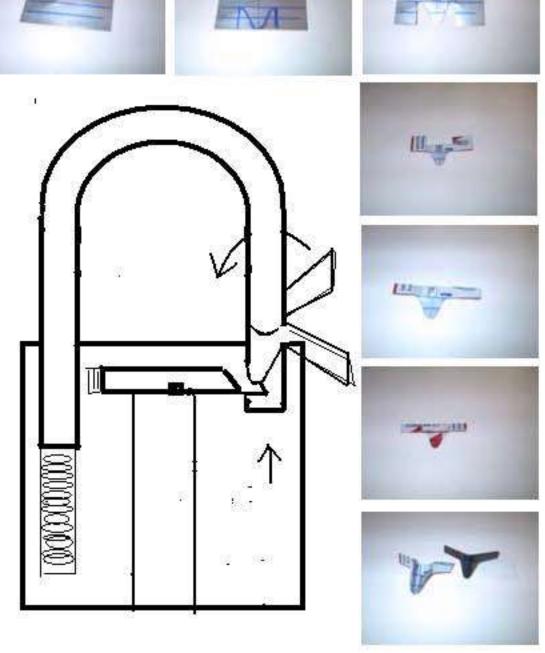


welding little "protusions" on the bottom of the foot stops the tool from slipping.



PADLOCKS



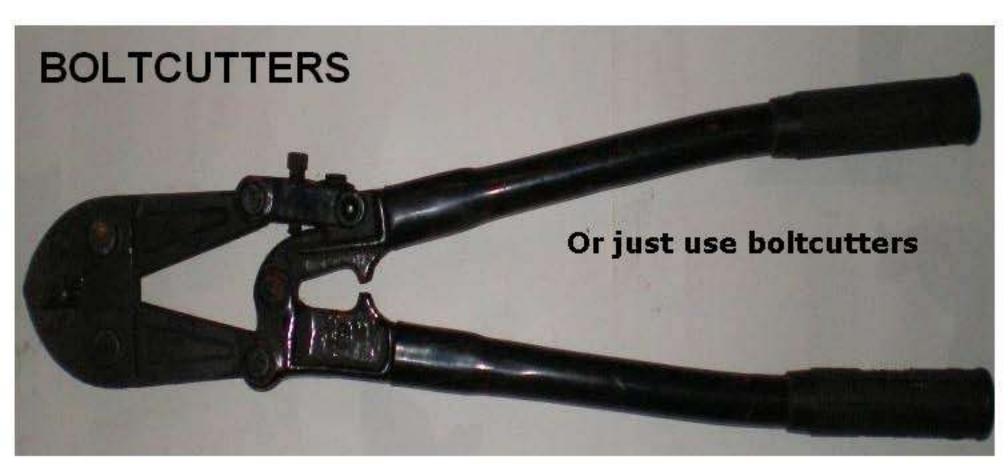




SHIMS

padlocks can be opened with so called "shims"below you see `professional shims that you can order over the internet, above you see how you you can make shims from empty beer cans that are good for a couple of uses





Unbreakable's Guide to Shim Construction and Usage.

January of 2005.

Here's my guide to making some nice shims to use on padlocks. Shims will only open certain locks, but they are nonetheless a valuable item to know how to make and use.

Materials:

- 1. Pop or Beer can.
- 2. Permanent Marker.
- 3. Ruler.
- 3. Scissors that you're not afraid to wreck (you'll be using these to cut the pop can)
- **OR** Tin snips or any other tool meant for or capable of cutting pop cans.
- 5. A small knife.
- **6.** Needle Nose Pliers.



Construction:

• First, you'll need to cut your can into a rectangular shape. To do this, make your first cut just slightly below the top of the can, in the middle of the tapered part. I started this hole with a knife





• Cut along the center of the tapered part with your scissors. (This cut doesn't have to be straight, just try not to go below the bottom the taper. The bottom of the taper is shown in the picture as the thick black line.)



• Now, cut just slightly below the bottom of the taper. Try to make this line nice and

straight.



• Next, cut vertically down the length of the can. It helps if you find a vertical, straight line to go by (like that on the outside border of the nutrition information box.)





• Now, draw a plus sign, making sure that one of the lines of the plus is in line with the last cut you made. Cut up and along all of these two lines. (*Note. The metal on the bottom of the can is usually really thick. It can be difficult to cut without tin snips. So, if you don't have tin snips, then skip this step altogether, and just follow the next step, and just cut slightly above the top of the taper with your scissors. You'll lose more useable metal this way, but you'll save your scissors, and you'll save yourself a lot of hard work as opposed to if you were to attempt to cut out the plus with scissors.)







You should be able to do this with the can when you're done.

• Next, cut along the bottom of the taper (the bottom of the taper is shown in the picture as the thick black line.)





• You should end up with a piece of sheet metal that looks like the piece in the picture below.

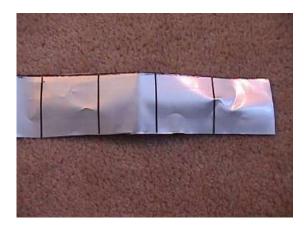


• Now, divide the can in half. (*Note. The dimensions that I use will be to create shims for a standard combination Master Lock. If you need the shims for a lock that is smaller or larger than this, than adjust your cuts as necessary.)





• Now divide each half into five sections. These should be four and a half to five centimeters across. Cut along the lines that you've just drawn. (One of these squares will not be the same size as the others, and that's ok.)



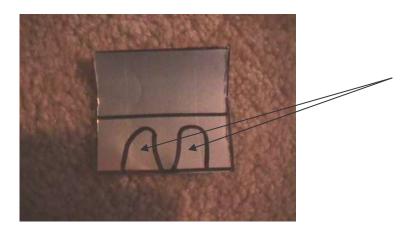




• Now, take these squares, and divide them in half horizontally.



• Now, draw a almost M shape, like the one shown in the picture. Cut this shape out, removing the parts that the arrows are pointing too.



• Now, fold the part above the M in half, so that it ends up just slightly above the two upside down U peaks.



• Now, fold the two bottom flaps up, so that they overlap the last piece that you bent.



• Now fold the entire top section in half and down onto itself.



• Next, fold the remainder of the two bottom flaps up.



• Now, crimp the entire upper section.



• The shim is finished!



Shaping and Using the Shim:

- For shaping a shim to be used on a Master Lock combination lock, I would suggest shaping the shim around a round pencil. To do this, just place the shim on the pencil, and bend it to the shape of the pencil as shown in the picture below.
- If the shim is going to be used on a lock other than a Master Lock combination lock, than I would recommend shaping the shim around the locks shackle (the U shaped piece of metal on the top of the lock.)





• Now the shim is properly shaped!!



• To use the shim, insert it into the left side of the shackle. Push it down until you feel it meet an obstruction.





• Now twist the shim 90° counter clockwise (towards the inside of the shackle.)





• Now just pull on the bottom of the lock like you would if you were to open it normally, and it should open.



Voila!!

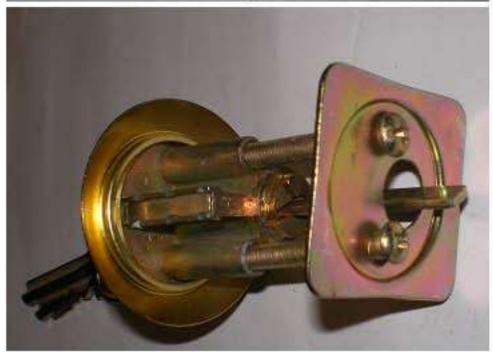
The shims that you've just made are only good for a few uses, and as soon as you see any rips along the outside of them, you should dispose of them in order to prevent them from breaking off inside the lock.

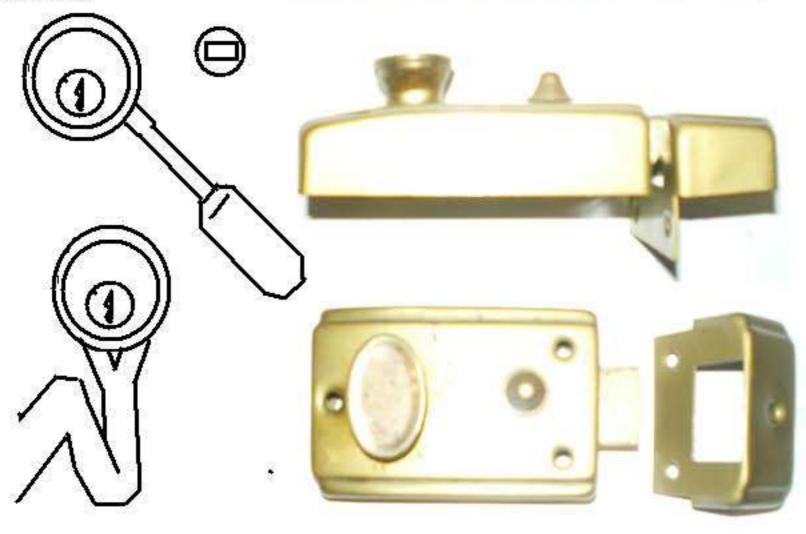
Have Fun! Unbreakable the cillinder is the part that fits the key, when the key fits the cillinder core is free to turn and to open or close the lock.

cillinders are either attached to the lock (fixed cillinder), or "loose" as shown here where the cillinder is fixed independently onto the door,

use a big flat screwdriver to bend out the "ring" untill there is room to fit a crowbar, then use the crowbar(pata de cabra) to pull out the cillinder(use force) the lock can then simply be opened with a screwdriver

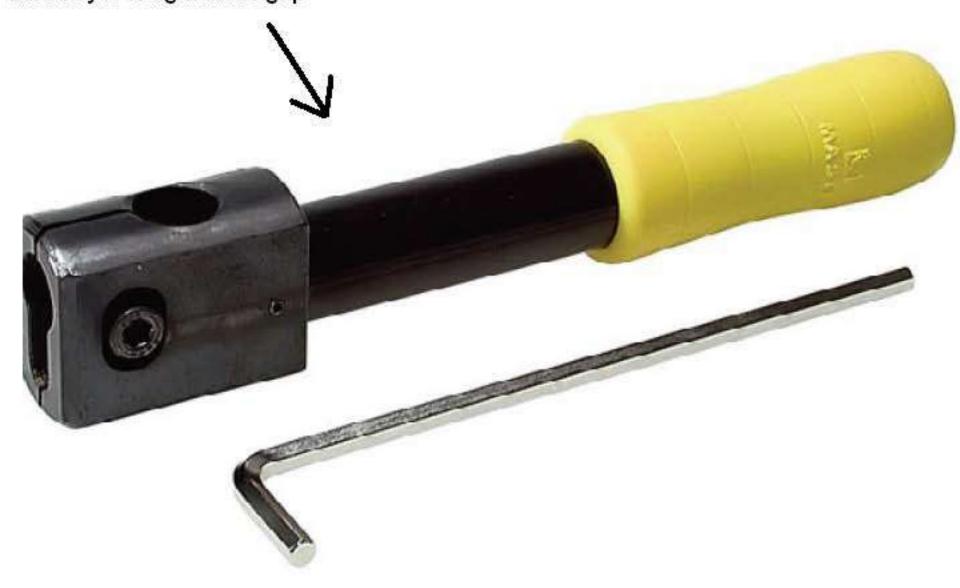






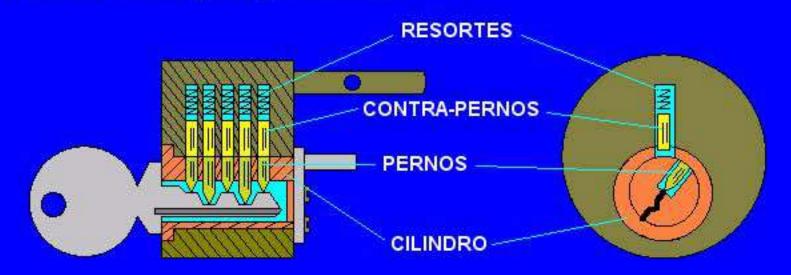


this tool is to get a firm grip on eurocillinders even when they dont stick out very much, the "allen"key is to tighten the grip



ESTUDIO DE CERRADURAS COMO FUNCIONA EL CILINDRO YALE

El gráfico muestra el interior de un cilindro con resortes, contra-pernos y pernos, observamos también que la introducir la llave correcta los pernos quedan a ras del cilindro por lo cual si giramos la llave el cilindro gira o queda liberado.



RESORTE

Los resortes son todos de la misma medida tanto en su diámetro y longitud se encuentran en el orificio del tambor y son los encargados de empujar a los contra-pernos y pernos.

CONTRA-PERNO

Se encuentra siempre en el vaso o orificio del tambor, la longitud suele variar de 4 a 6 medidas diferentes y sus caras son planas por ambos lados, el diámetro siempre es igual que del perno.

PERNO

El perno se encuentra en el orificio del cilindro, posee una cara plana y la otra redondeada para que la entrada de la llave sea mas suave, pueden ser de 8 a 10 medidas distintas a excepción de los rebajes

Observamos en la figura que los elementos de una cerradura no han cambiado sea cual sea el tipo de llave o sistema usado, este modelo posee un hueco para el cilindro y puede ser sustituido por cualquier otro cilindro sin tener que cambiar de cerradura.



