

## Advanced Bulb Breaking, for Cool Kids

Things you'll need:

- Safety Glasses
- SAFETY GLASSES
- Leather glove(s)
- Light bulbs
- Needle-nose Pliers
- Spring-loaded nail set
- Rat-tail file (optional)
- Wire cutters (optional)
- Straight Screwdriver (optional)



Do you have your safety glasses on? Good . . . proceed.

Breaking light bulbs, in a controlled manner, is a little tricky. It is really easy to crack the main glass bulb, or bend the threaded metal base. Using a hammer and typical nail set will almost guarantee you bend the base all out of shape, and greatly increase the odds of cracking the bulb.

So how do cool kids do it?

### The Big Secret

The primary secret to successfully breaking out the bottom of a bulb, with minimal damage to the threaded base, AND without cracking the bulb, lies in using a **spring-loaded nail set**. With this, you can easily control how much force is exerted, and also ensure it is focused right where you need it.

The difficulty here is, holding the bulb, placing the nail set correctly, and operating it. Depending on the size of your hands, it can be done by yourself, but would be much easier if you have a helper (do they have safety glasses too?!).

Another option is to cut the bottom off of a bulb receptacle, and clamp it in a vise. Then you can screw the bulb into that, which frees up both of your hands. But that is a lot of extra work.

Gather your tools, and let's get started.



*Spring-loaded Nail Set*



*Get yer tools*

## The Process

If you look at the bottom of most light bulbs, there is brownish-black, tapered ring, with a metal contact on it. The brownish-black part is typically glass, which means, AWESOME, we can break it! This is, obviously, quite dangerous, so make sure you are wearing safety glasses, and have some decent leather work gloves on.

The first thing to do is to remove the foot contact. This can be done with pliers, or straight screwdriver; it is just sort of glued on there. It does attach to one of the contact wires, but that is no big deal. Once you get it started, it comes off pretty easily.



*Before*



*After*

Notice that little hole in the middle, right on top? Time for the nail set.





If you can keep the nail set in place, while also holding the bulb, you're all set. Otherwise, now is the time to get your helper. SAFETY GLASSES.

Pull the spring up on the set, and let it give the glass foot a good smack. It should crack with the first hit; if not, you need to do it a little harder. Continue hitting it until the cracks are really significant, and hopefully create 3 or more pieces. It's okay if the pieces don't start coming loose on their own (some smaller pieces may), that's what the pliers are for. Just be sure not to do it too much, because you risk bending the metal thread piece. It will probably bend a little bit around the top, but shouldn't be too bad, if you're doing it right.

Big pictures, to really see what it looks like.



*One Hit*



*Three Hits*





*Five or six hits*

After five or six hits, the glass foot should be completely broken apart. Once it looks good enough, grab the needle-nose pliers, and start carefully working the pieces out. This takes a little patience because they are further tapered under the metal threading piece, and don't just slide out. There is also some

cement inside which can hold them in place a bit. Carefully work the pieces back and forth, until one comes out. After that, the rest are easier.

If any of the bigger pieces are really giving trouble, they can be cracked further with wire clippers, once you've made enough room to get them in there right.

Once the foot is all removed, the rest of the inside pieces need to come out. Depending on the size of the bulb, after all that hitting, the glass stem and exhaust tube may already be broken. If not, they can be broken out using the nail set again; just don't do it quite as hard. Unlike the glass in the foot, these pieces are as thin as the rest of the bulb, and break really easily.

Also, one of the contact wires will probably still be attached to the metal base, so you'll need to break it with the pliers as well. Just tug on it, and it will break off easily.



*First piece removed*



*Glass foot removed. Stem, exhaust tube, and contact wires left.*





*Exhaust tube removed, glass stem and contact wire left*

There will usually still be some extra glass remaining after the main bits are broken out. Also, in some types of bulbs, there will be larger bits of cement that you want to remove as well. This is where the rat-tail file comes in handy. It doesn't take much, and it will remove the rest easily. This can also be done, carefully, with a screwdriver, or the nail set again.

Once everything is broken out to your satisfaction, carefully dump it all into the trash.



*Main bits removed, but still some around edge*





*All busted up inside (contact wire still attached)*



*All clean!*

One final thing which you should do, is to bend down any sharp edges of the threaded base piece. It has some bits jutting out naturally, plus removing the glass foot probably bent some of it up a little. This metal is extremely easy to bend, so rounding it down again is no big deal. This can be done with a screwdriver, or other blunt metal something (I use an old nail set, which was ground down for some other purpose, who knows when).



*Something or another to use for bending*



*Sharp edges all bent down*

## All Done

Enjoy your perfectly intact, broken bulb!

