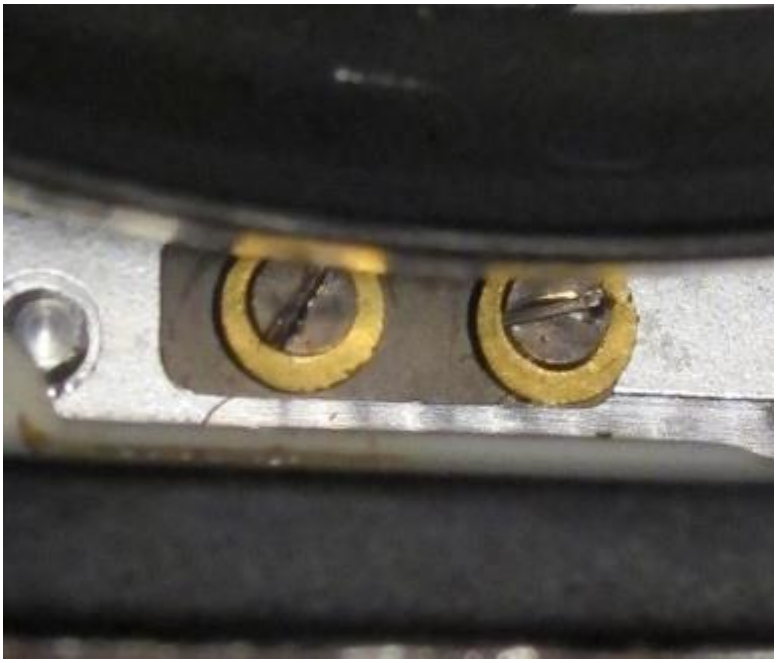
Standard 8 aperture maintenance, courtesy of Onnie Granados.

CONTINUED from previous post--

Removing those two tiny screws (and accompanying washers) and getting that 8mm aperture out of the projector is really more art than science, and because I've got a lot of experience getting impossible parts out of impossible locations (while simultaneously inventing entire vocabularies of profanities), I'm afraid I can't give you a greatly detailed guide on extracting these screws -- if you've ever done this kind of thing before, you know what I'm talking about -- but just go slow.

Here's a close-up of your challenge: Remove These Two Screws Without Losing Them.



Difficulty level: 9, because these little @#$#@ are brass or some other non-magnetic material. Meaning, you can't just use a magnetized jeweler's screwdriver to unscrew and extract these things in one fell swoop. So, what to do -- or at least what I do:

- I find it's marginally easier to get to these screws with the projector in S8mm mode, meaning the 8mm gate is "open" or in the down position -- this just gives you the tiniest bit more access to the left screw. It's not a huge deal but every bit helps.
- These screws unscrew counter-clockwise (standard thread). To "break" them loose (the threads can be sticky if the projector has sat for years), use the jewelers/precision screwdriver with a blade that's as wide as the diameter of the screw head -- make sure the screwdriver tip is FIRMLY in the slot, press down on the screw head and keep the screwdriver as perpendicular to the screw head as you can, go SLOW but FIRMLY counter-clockwise, JUST until you feel the screw begin to unscrew. Then STOP. You just wanted the widest blade for maximum torque to get it started. Now it should unscrew pretty easily, using a screwdriver with the blade/tip about half the diameter of the screw head. This way you're not binding the screwdriver on the edge of the shutter blade wheel (the black curved edge in the shot above). Tolerances are pretty tight, GO SLOW and now do NOT PRESS DOWN HARD on the screw -- just use a light touch, keep the blade centered on the screw head, keep unscrewing slowly.
- Tricky part is, you want to get the screw to just come out of the hole, so it "falls" onto the surrounding metal edge but does NOT fall off into the machine. If you go SLOW you'll suddenly find the screw comes out and wants to tilt one way or the other. Carefully maneuver the screw just so it does not fall UNDER the blade shutter wheel. It's just harder to get at there. Let the now-extracted screw sit there on the plate where it just came out.
- Remember the poster putty? Take a little piece of it, like the size of a BB if that big (smaller is better), and roll it into a little cylinder and stick it on the end of your smallest precision screwdriver.

- OR -- if you have a set of precision tweezers, you MAY be able to tweeze the screw out from where it's sitting. You'll figure it out pretty soon if you can get to it or not with your particular tweezers. Mine are too big, so poster putty time.
- You take your little blob of poster putty on the end of the tiny screwdriver, and VERY SLOWLY stick it against the screw, pushing straight down so the screw doesn't go rolling off into the guts of the machine, and if you've been living right, when you GENTLY life the screwdriver out, the screw is now stuck to the poster putty blob. Like this:

You'll need to do the same thing for the little brass washer that'll still be there (hopefully) after you extracted the screw. See this little washer here? It's brass, non-magnetic, so you have to use poster putty on a stick and/or tweezers to grab hold of it:

And -- voila!

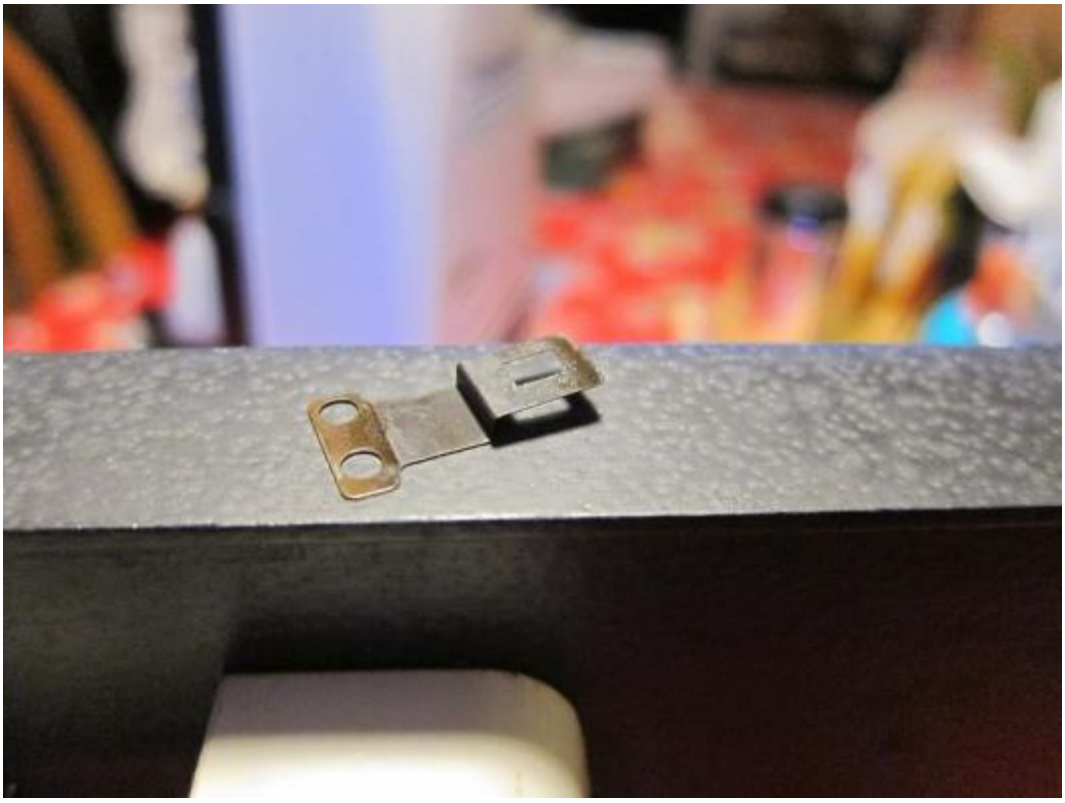
Once you've got your screws and washers removed and STORED SAFELY somewhere (I like to put all the little screws

and washers in my precision screwdriver box), then getting the 8mm aperture plate thing out is easy, just grab it with your fingers (if they're small) or pick up with tweezers, poster putty, whatever.

You little dickens!

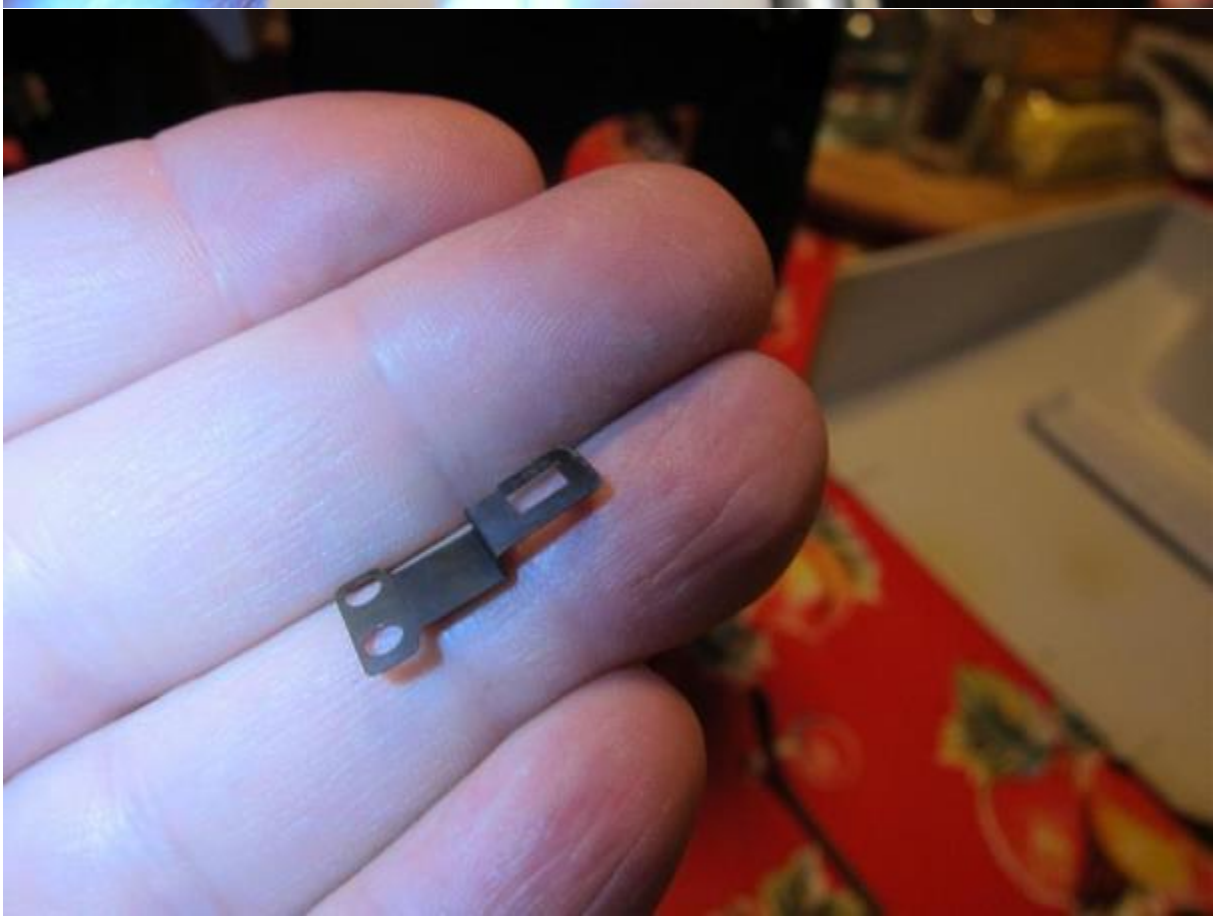
Now lets look this thing over real good and make sure all of the following is true:

- Is it nice and clean and shiny?
- Is it flat where it's supposed to be flat, and bent ONLY where it's supposed to be bent?
- Basically it should look pretty much like the following –



Here are a few different angles just to compare it to however yours looks. My 8mm aperture/thing is in good

working condition, so use this as your base image.

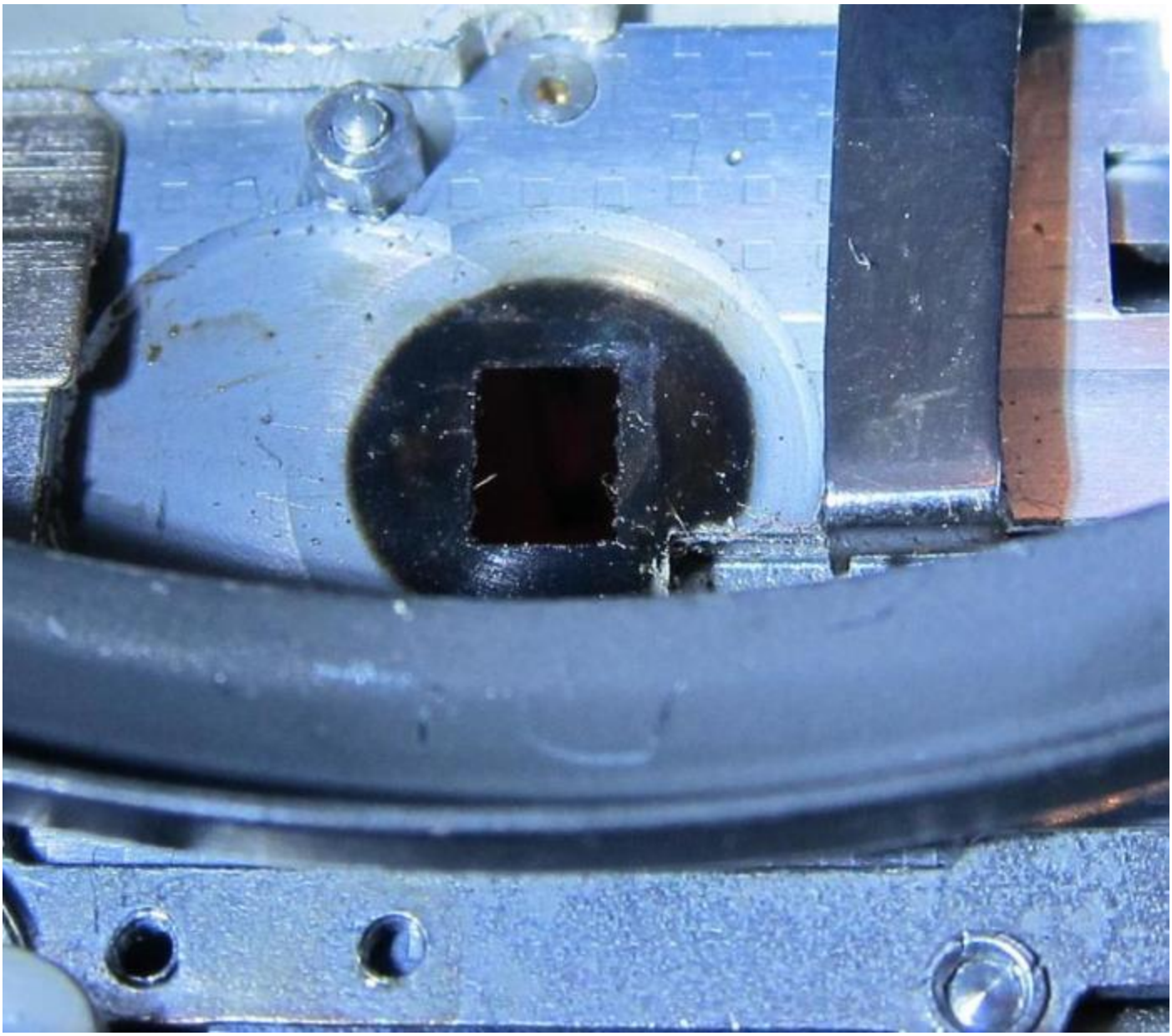


The flat parts should be PERFECTLY FLAT, and the zig-zag "bend" should be such that when the holding screws to this aperture are tightened down, the flat opening slides PERFECTLY FLAT against the larger S8mm opening. You can see it when you see it.

If your 8mm aperture is bent ... well I'd need to see a good picture of it from several different angles before I could begin to advise how to straighten it out. Yes, it can be straightened, but it's more art than science, and

hopefully it's not so bent that you really need to work it over too much. Mostly I've seen these things get bent on a plane where the zig-zag bend gets "opened up" so the face of the 8mm opening isn't nice and tight against the face/plate of the projector gate, it lifts up on one side or another, and you just gently bend the aperture back to its original shape, so it "snaps" against the gate face. You just gotta keep working it until it fits.

But hopefully your aperture isn't really bent, it's just as likely to have a big ball of fuzz/lint/hair collected between the aperture and the gate and you unscrew everything and the gate is full of little hairs like this:



Here's where you take your foam tipped swabs (don't use cotton! They shed!) and your isopropyl alcohol and you clean the entire pathway until there's not a spec of dirt, lint, metal shavings, etc. from the gate inside the projector, AND clean your little 8mm gate so it's nice and smooth also. The metal of the 8mm aperture may be discolored due to heat over time, but as long as the surface is smooth, that's all that matters.

TO BE CONTINUED>>>

Ilford FP-C projector 8mm aperture -- final thoughts:

Advanced repair step: Here's where I like to take my spray can of plastic-safe contact cleaner and just blast the crap out of the gate of the projector, both sides, up and down, top to bottom, of course doing this OUTSIDE and using the little spray tube so you're getting the cleaner targeted to the metal facing surfaces of the gate/path. You don't want to blow all the grease out of all the plastic gears, but seriously, if you've got the projector this far apart, check out the gear lube, check the belts, see what might stand replacing as long as you're in this deep. When you blast your contact cleaner try to have the projector positioned so the cleaner drains off the metal parts onto the ground, NOT back into the projector. But if the gear grease is really sticky, I'd blast everything at this point and regrease while I'm at it. You can use your favorite custom lubrication but I find a THIN coating of plain unadulterated Vaseline works wonders. It's definitely better than whatever aged gunk was in there before, but again, you have a favorite grease, you use it.

DO NOT PUT ANY GREASE NEAR THE FRAME OPENING IN THE PROJECTOR GATE OR ON YOUR APERTURE PLATE! You want these as lube-free as possible because it'll pick up dust like a magnet. The 8mm aperture should be a grease-less fit where it slides against the larger gate opening.

Reassembly of the aperture/gate/projector is just a reverse of the above steps.

Okay okay, putting everything back together is, technically, just backwards of the above. But a couple of caveats:

- Putting the 8mm gate and getting the screws lined up so you can put things back together -- short version: Put the 8mm aperture back in place, take one tiny screw, put the washer on it, take a dab of vaseline and stick the screw and washer together, take your precision screwdriver (the half-diameter of the screw size one) and put a blob of vaseline on the end, stick the screw and washer and screwdriver together using said vaseline (not too much, just enough so things stay together) and then very carefully line everything up and start the screw slowly, when it gets started, don't tighten it all the way down but go to the other screw and washer, stick them on the screwdriver with a dab of vaseline, start the second screw, when you've got that done then tighten down both screws snug with the smaller screwdriver, with the finishing touch of the larger screwdriver. I'll try to make a short video of this but no promises.
- Keep a can of Dust-Off handy for blowing out the film gate after every showing, and when the projector is off, move the sprockets from 8mm to S8mm and back while simultaneously blasting out the gate with Dust-Off. Keep that gate clean!

Hope this helps!