

Pentax MX in for CLA serial #9533872

Post #1

Upon inspection the camera appears clean and reasonably well cared for, on the tester the high speeds are slow and the curtains are traveling erratically resulting in 1/1000 sec which is 1 millisecond giving anything from 2.44ms to 3.60ms (1/500 and slower).

The meter reads way off but as I turn the aperture ring all the led's light up intermittently indicating dirty resistors at the aperture control and most likely the shutter speed selector as well.

I'm going to post this job in steps as it simply takes too much time all at once, I'll number these posts so it's easier to follow.



Tutorial by Eugene Pate
learncamerarepair.com

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Post #2

On just about any camera that accepts a battery, remove it and check it/them (these will be too weak soon but are ok for now).

I always remove the bottom cover first - three cross point screws, the motor drive contact insulator is loose, set it aside.

Fairly clean inside! Take photos paying attention to the wiring and look for loose parts.



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Post #3

If the film door is removable set it aside.

Set "B" as 100 to remove the shutter speed selector dial.

Using needle nose pliers hold both rewind fork tabs (holding just one will likely break it off), unscrew the rewind assembly counterclockwise.

Fit your flat spinner tips and remove the collar holding the round black decorator plate (right-hand thread), lift off the part(s).

Fit your pointed tips on the scanner and remove the shutter speed dial (right-hand thread), lift off the dial, there may be loose parts of the dial be careful.

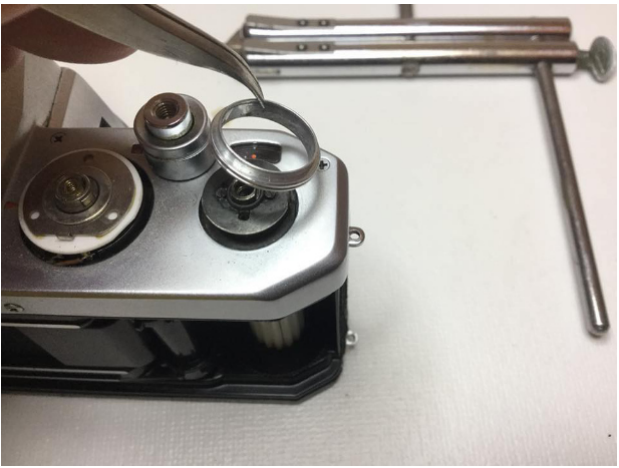
Using the same pointed tips unscrew the winding lever capscrew (LEFT-HAND threads) - don't turn it the wrong way and break it! Lift off the cap, lever and silver decorator ring (note the direction it fits, both sides are not always the same).

Remove the top cover retaining screws and lift off the top cover, THE CABLE RELEASE PIN will be loose, don't lose it.

Look for damage, loose parts, make notes/take photos of all the wiring.



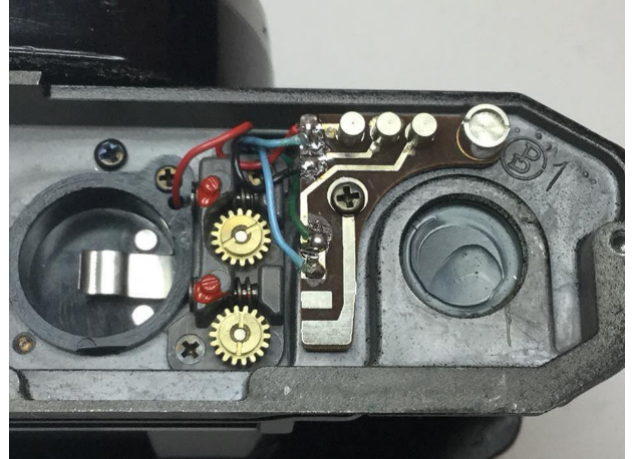
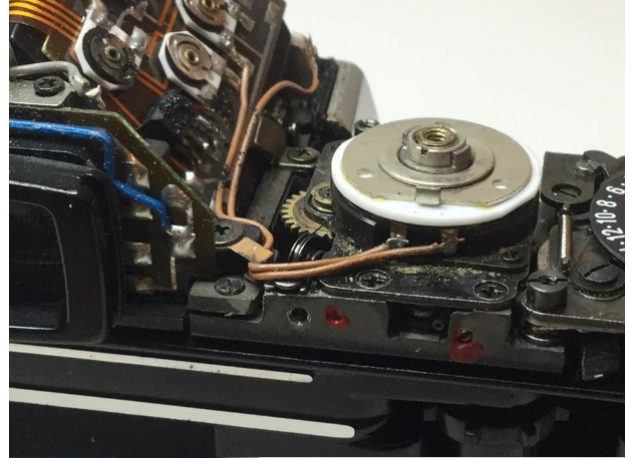
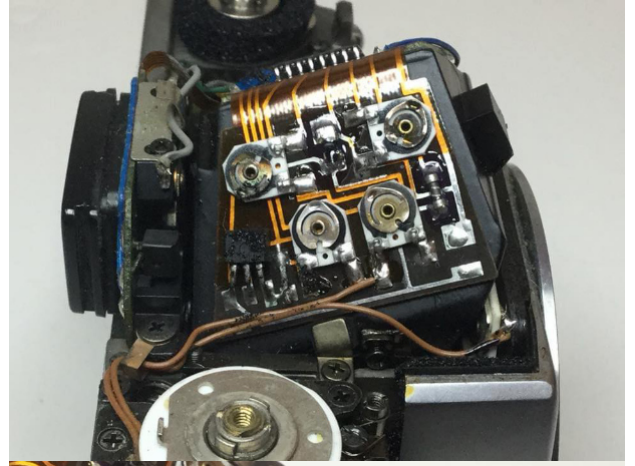
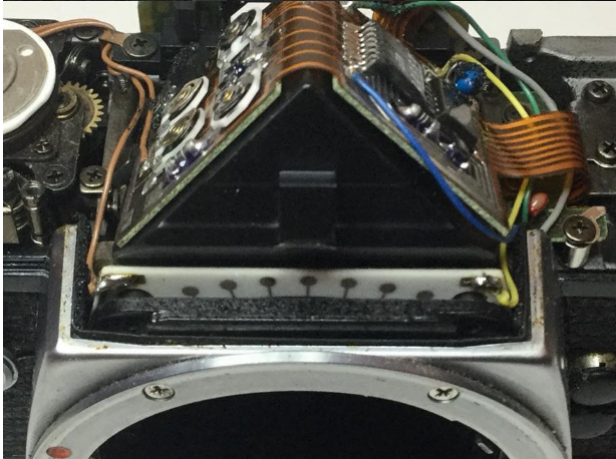
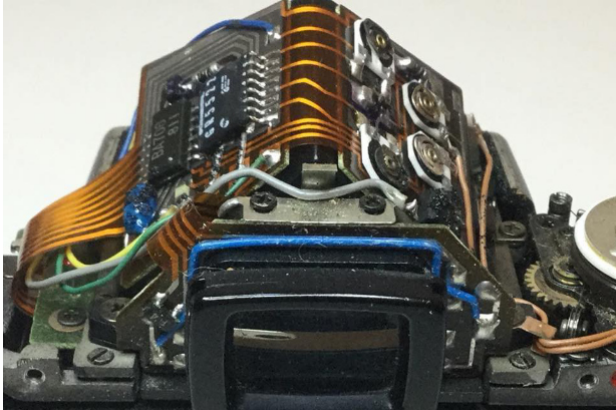
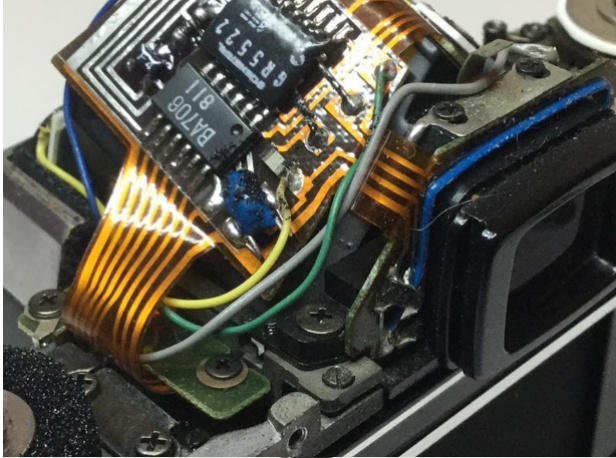
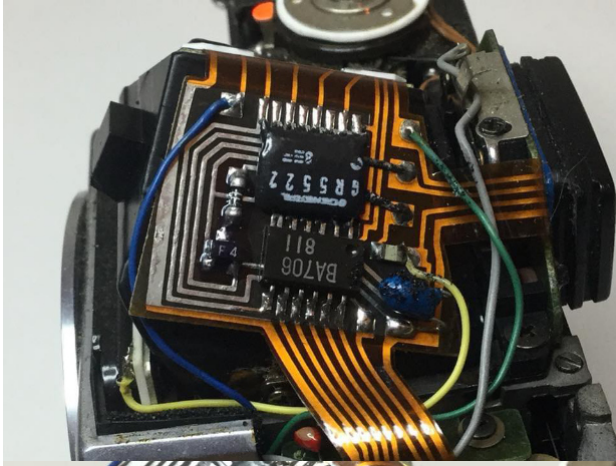




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Post #4

Take photos or make notes of all the wiring, look for loose connections, bad solder connections or damage like water damage or corrosion (a hint of water damage can significantly change the amount of service required to bring this camera back to factory tolerances).

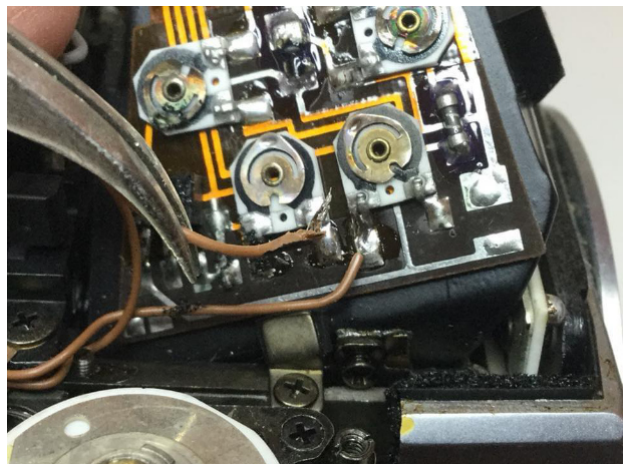
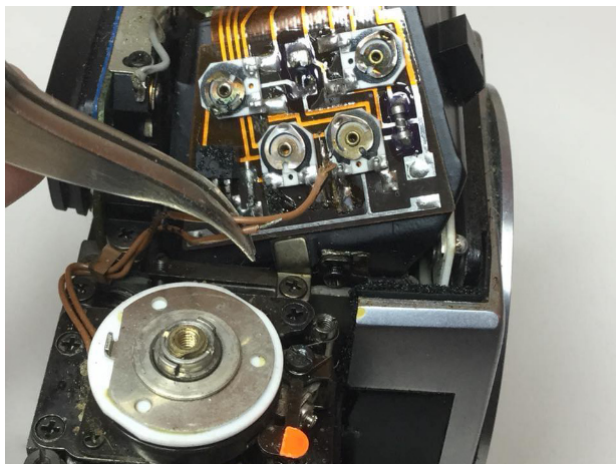
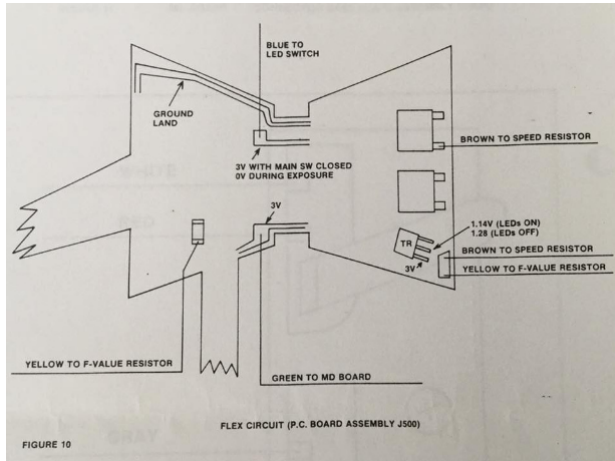


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Post #5

Unsolder 6 wires from the flex (figure 10 photo)

This is where it helps to take photos because wiring changes, wires get replaced during service and the tech doing the work may not have the correct color and the locations change as the manufacturer alters the flex design. Don't take it for granted the diagram in your manual is the same...



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Post #6

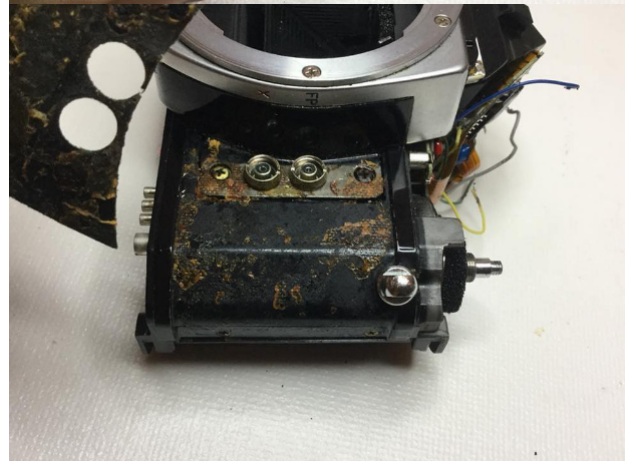
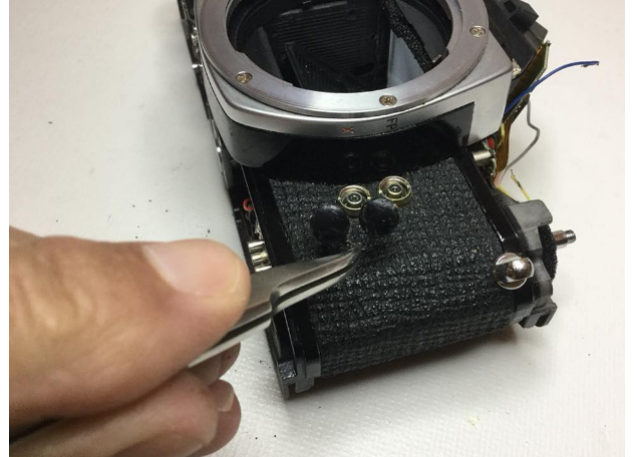
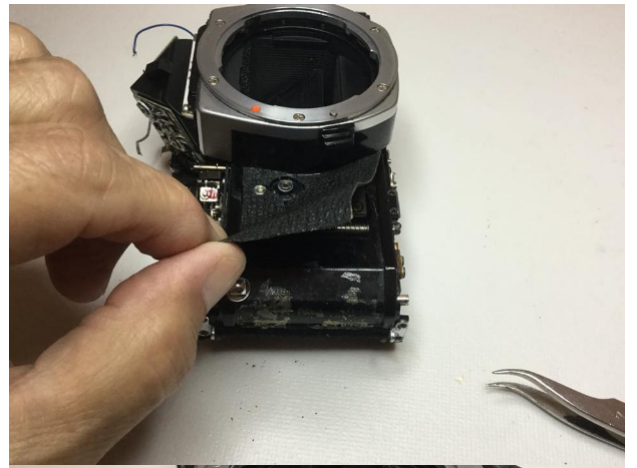
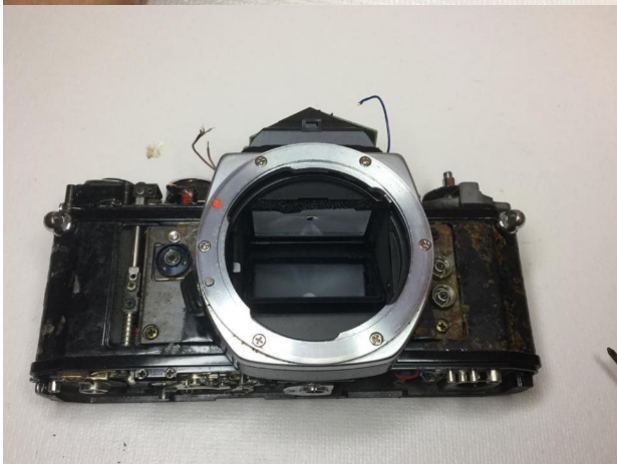
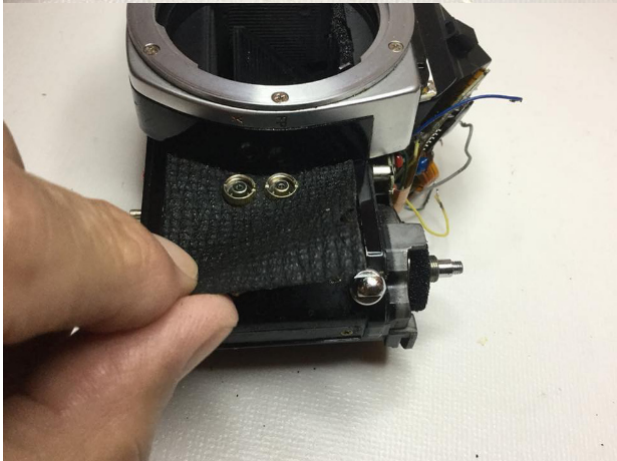
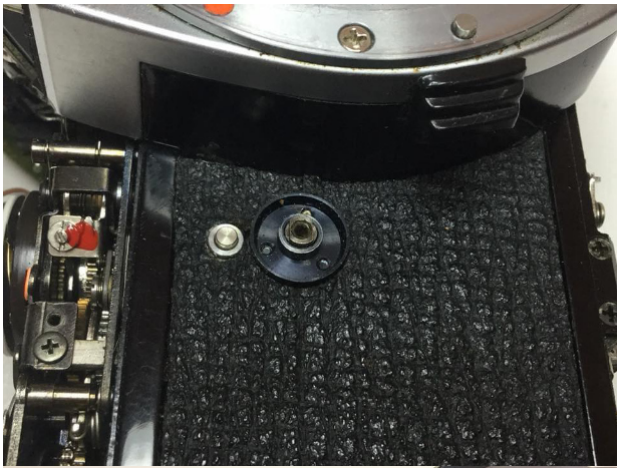
Please note: the 6 wires unsoldered in the previous post do not have to be unsoldered to remove the front plate (just the two wires on the aperture resistor) however I'm going to go further so I'm writing these posts with that in mind... Remove the self timer, decorator cover, retaining screw and lift off the self timer lever.

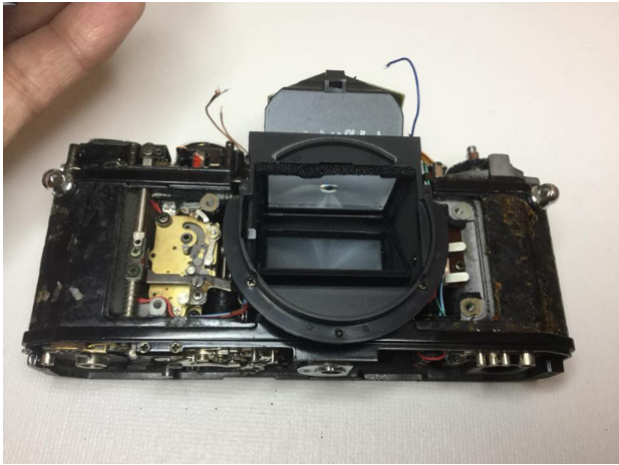
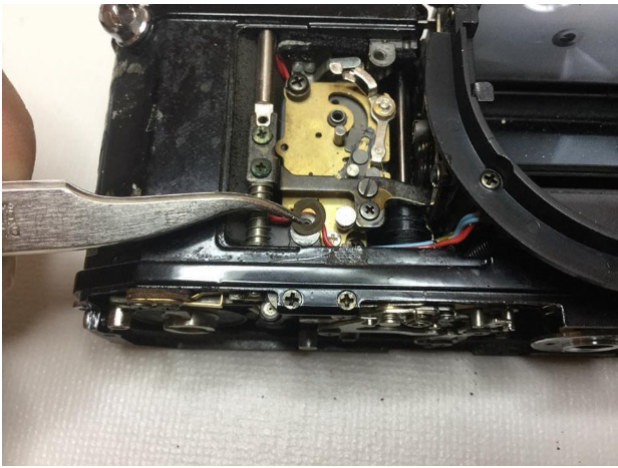
Remove the left and right front leatherette, be careful not to damage it. Remove the 4 screws holding the front plate and lift it off, the self timer connector that stayed with the front plate is loose (if you want you can re-install the lever and screw to hold it on).

Under each of the front plate screw holes are 4 0.1mm washers, they're loose, sometimes they stay with the body or plate or both, remove them and set them aside or cement them in place to avoid losing them (they are the factory adjustment for the front plate/film plane distance).

Again make notes or take photos of all the available wiring...







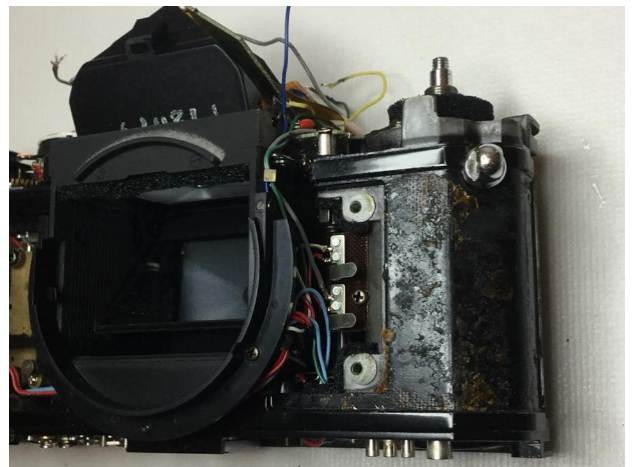
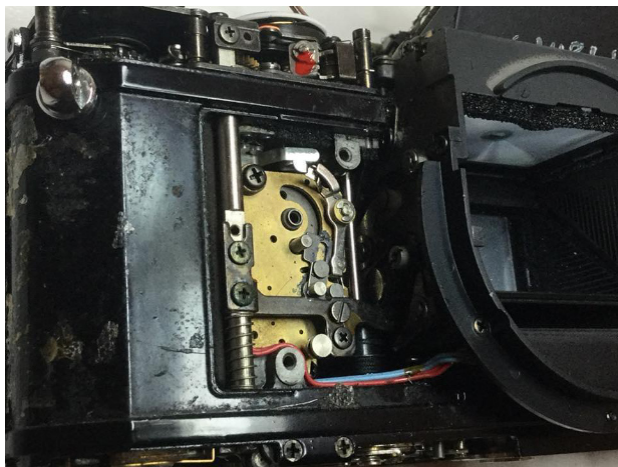
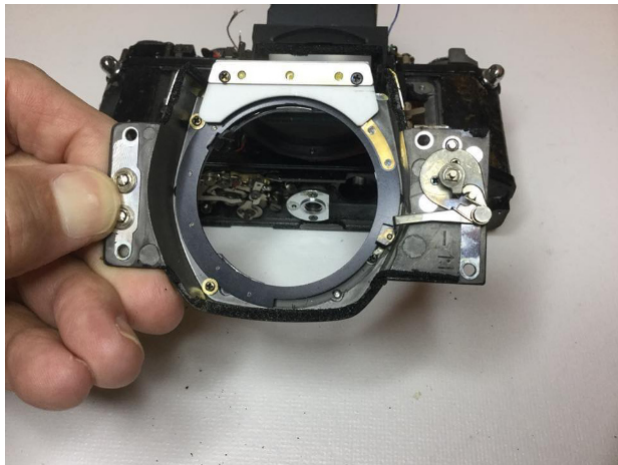
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Post #7

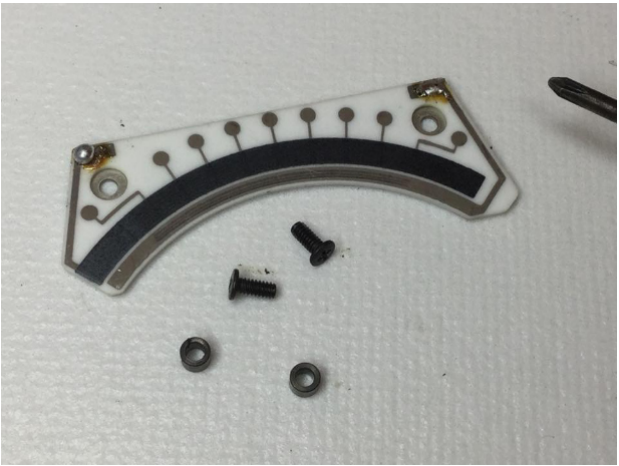
At this point I'm going to clean and replace the light seals on the front plate, if you remember the meter was erratic and it's because the aperture resistor is dirty, obviously the seals are bad, so I'm going to clean them off, inspect the assembly, clean the aperture resistor assembly and it's brush contact so when it's time to reassemble the camera I can simply reinstall the front plate.

Keep making notes/photos of your progress, there's nothing like not being sure and being able to refer to your notes unless you have another MX handy - even then there could be wiring changes...

When you remove the two screws holding the aperture resistor there will be two spacers loose, these spacers hold the resistor in position - don't lose them.







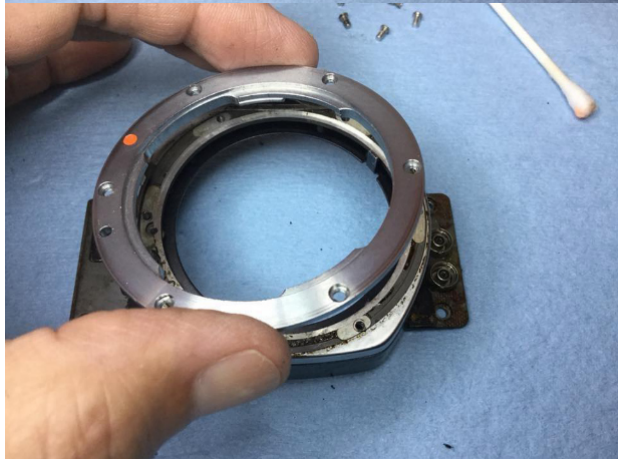
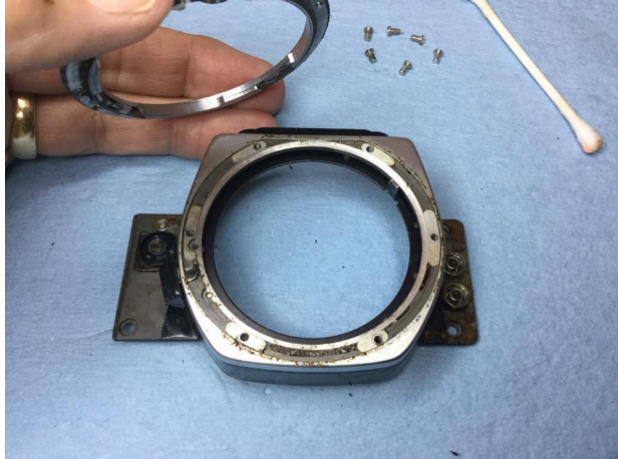
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Post #8

While cleaning the front plate I noticed I can't clean the lens mount area and the lens release button seems sluggish.

Make sure you support the brush contacts as you clean them to avoid banding/damaging them.

I removed the mount screws and found soda pop damage, syrup from the soda settled into this crevice and dried leaving a sticky residue.



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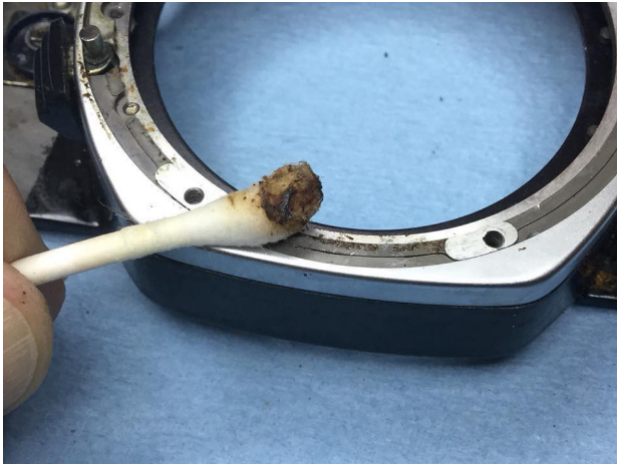
Post #9

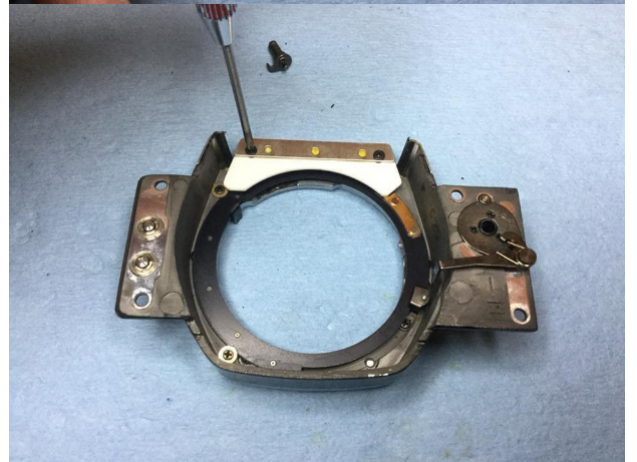
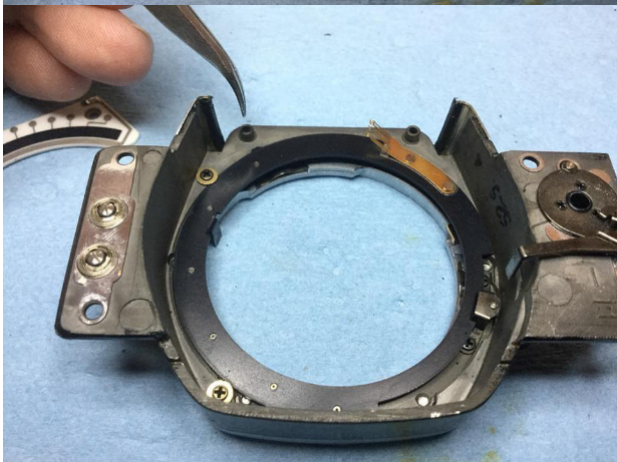
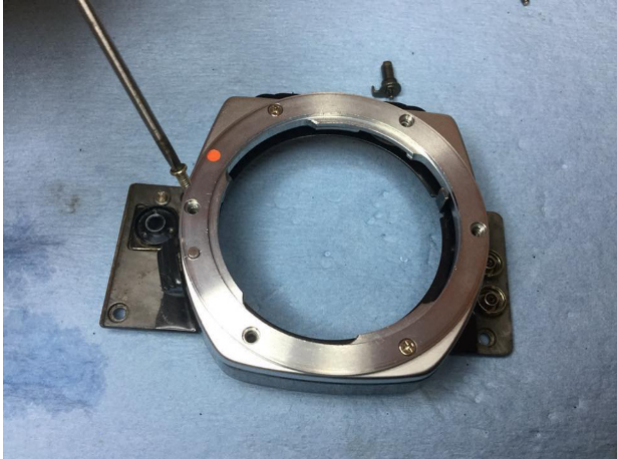
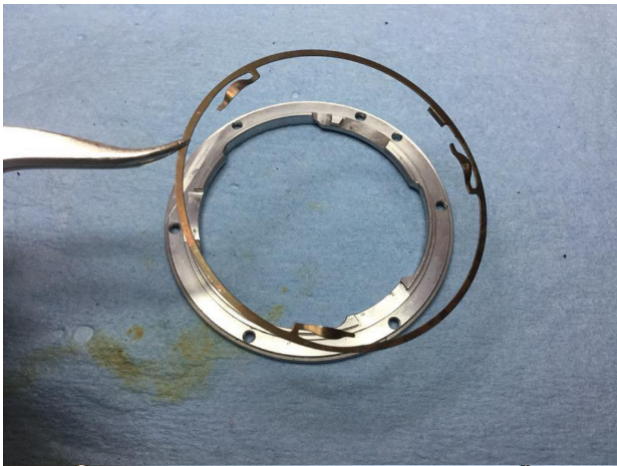
Cleaning as much as possible with a Q-Tip and alcohol, then I'm going to soak the mount itself in hot water and use a toothbrush to get off the residue (hot water dissolves the sticky syrup) there's a delicate spring on the rear of the lens mount that I don't want to bend or damage...

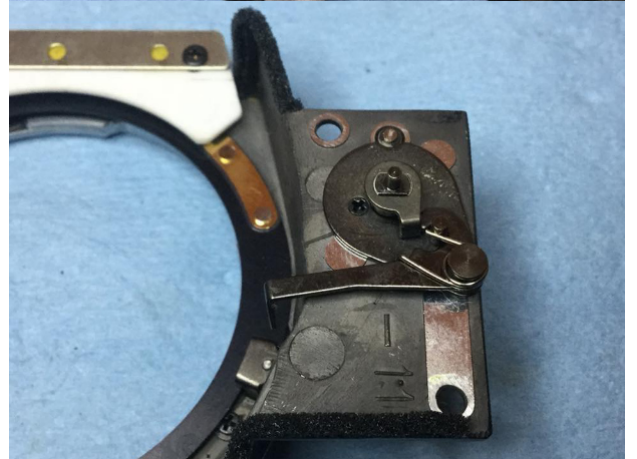
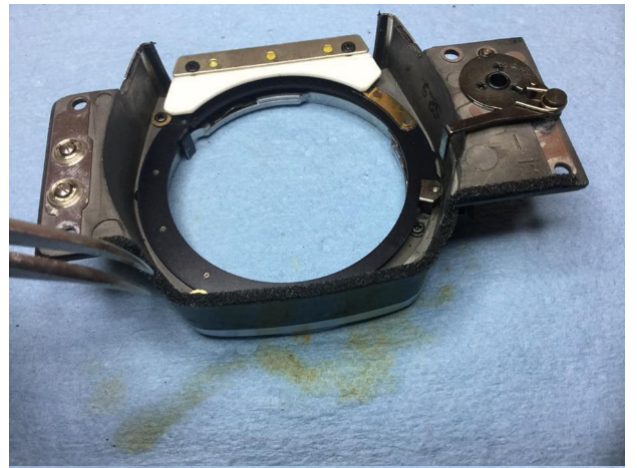
Once that's clean, I'll use alcohol and Q-Tips to clean the aperture resistor and then a light eraser to get tarnish off.

Then I'll replace all the front plate light seals and baffles and get it ready to reinstall when the time comes.

Next: I'll disassemble the Camera to clean and lubricate the shutter.





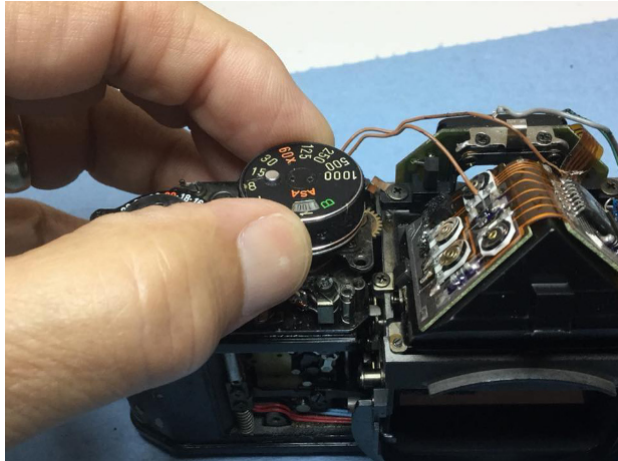


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Post #10

Time to disassemble to remove the mirror unit, replace a few seals/cushions... Put the shutter dial back on temporarily and set 1/1000 second in the case we need to remove the wire/pulley assembly for the shutter speed indicator... take it back off...

Remove the two small screws holding the shutter speed resistor and lift it off. Upon reassembly I'm going to disassemble the shutter speed resistor and clean it.



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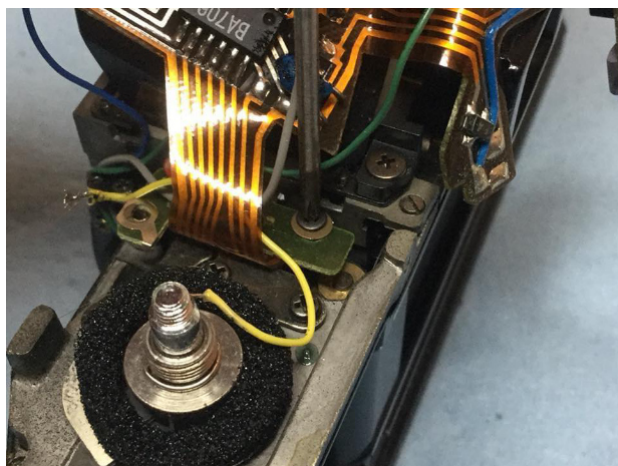
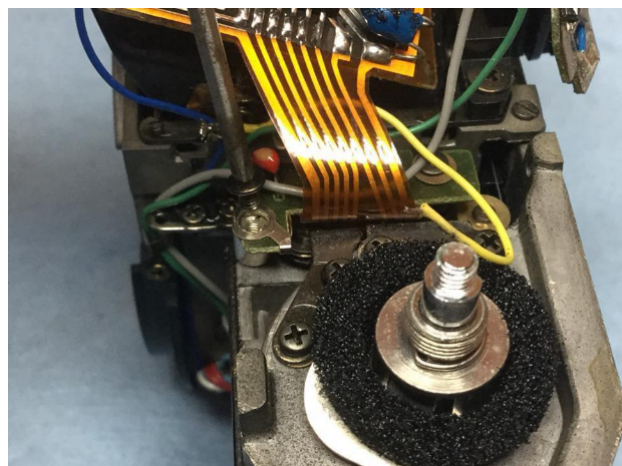
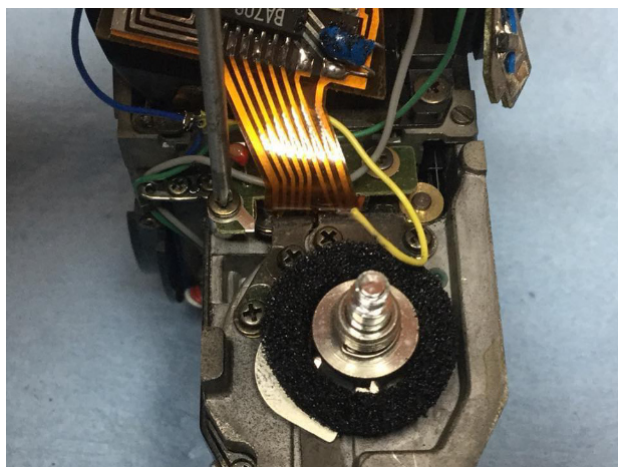
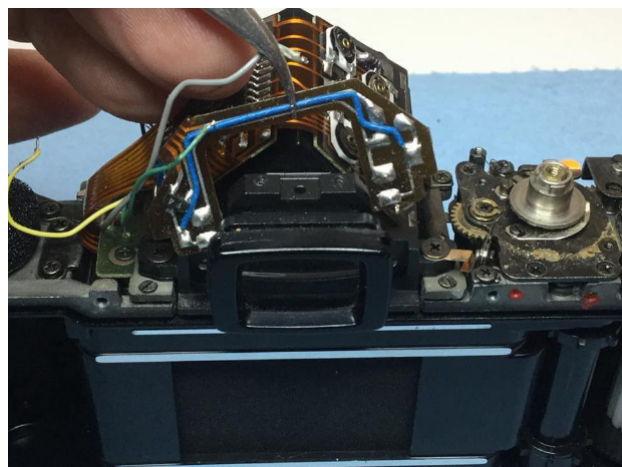
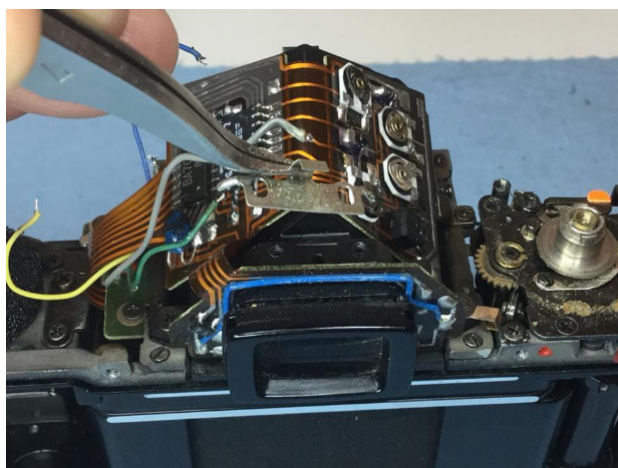
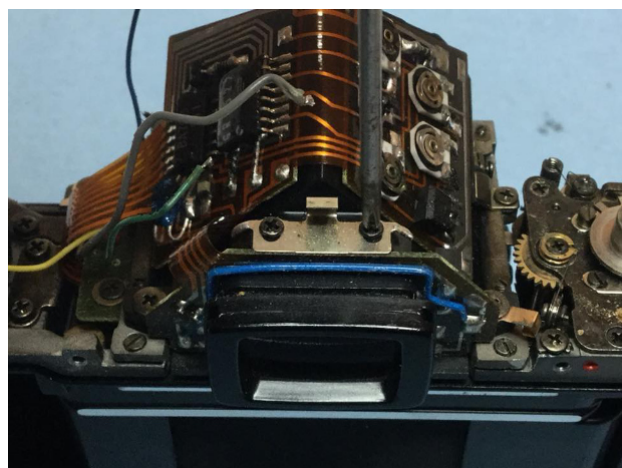
Post #11

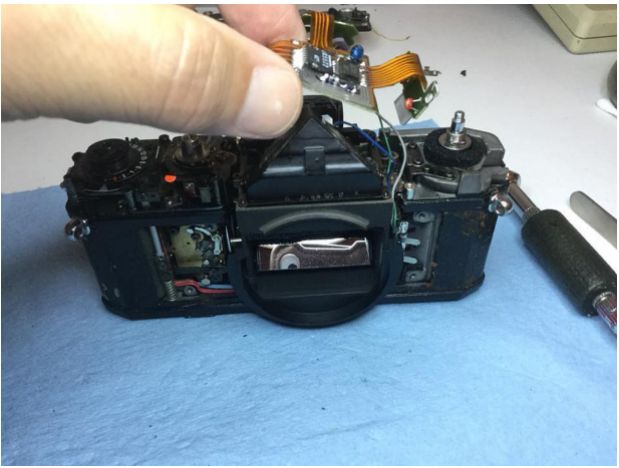
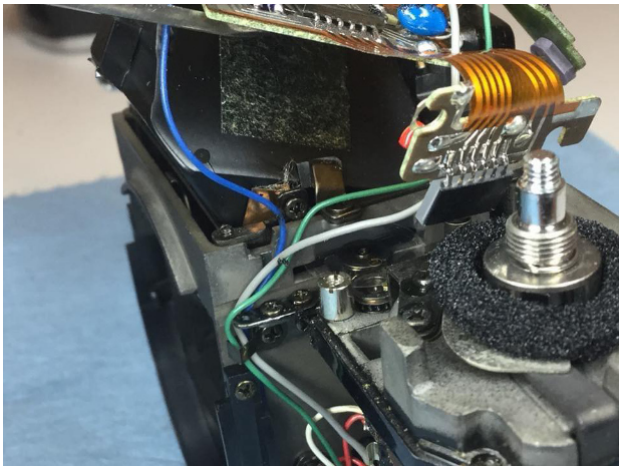
If you haven't already done so unsolder the gray wire to the hot shoe contact at the eyepiece, remove the two screws holding the contact plate and lift it off.

Note: some years there is a retaining clip for the photocell circuit board, some later models no clip. If there's a retaining clip holding the photocell circuit board in place remove the single screw holding it down - there's no retaining clip in this camera you can free the photocell circuit board from the eyepiece.

There are two screws holding the LED circuit board, some manuals say to remove the screw without a washer and just loosen the one with a washer to free the LED circuit board, if you're going to remove the mirror unit, remove them both.

Free the underside of the main flex circuit from double sided tape holding it to the prism, slide out the LED circuit board and lift off the complete circuit.

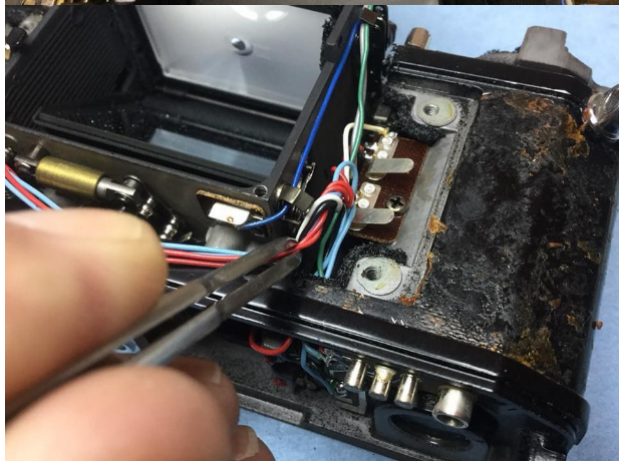
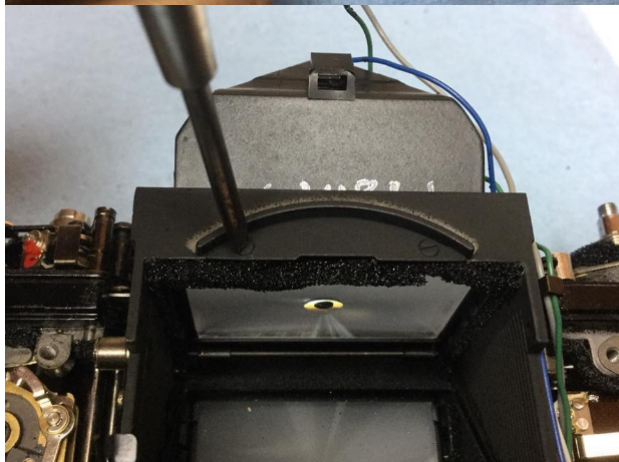
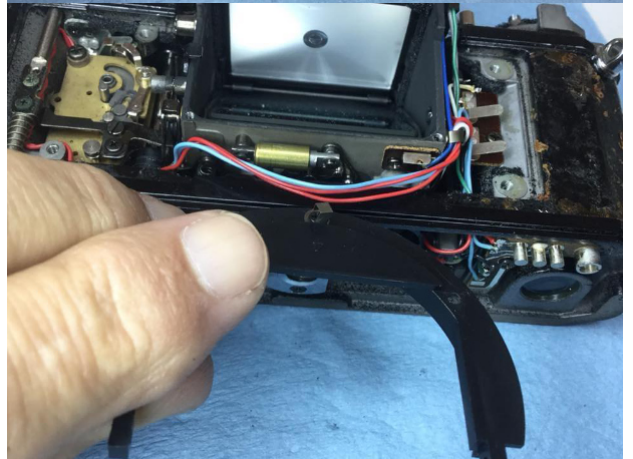
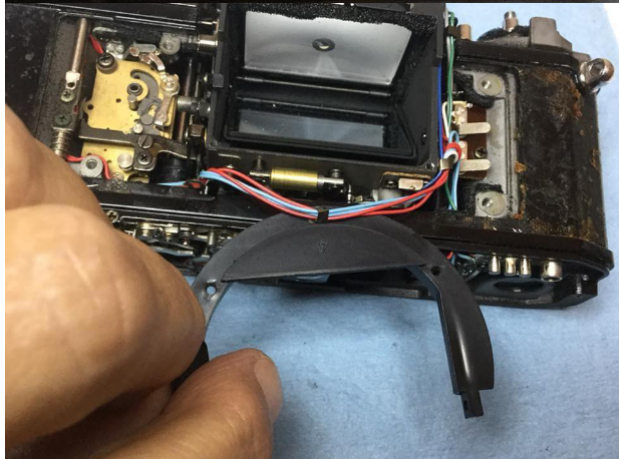
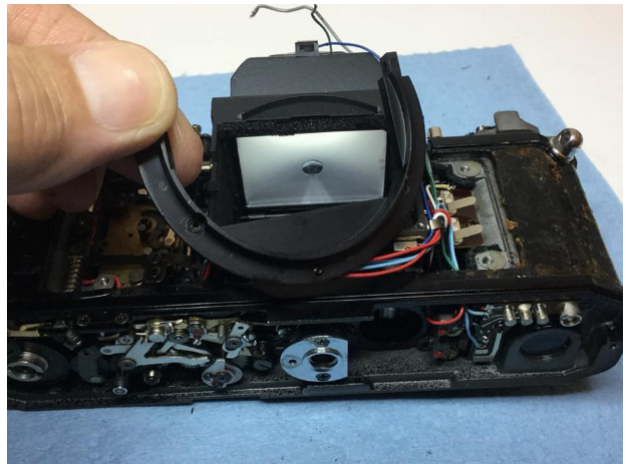
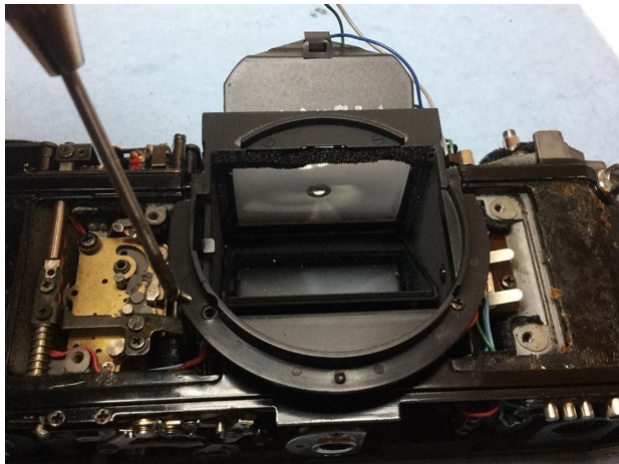




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Post #12

I like to remove the black plastic surrounding the mirror unit face, disengage the wires from the retaining clips, also remove the two screws holding the small half-round plate in front of the mirror up cushion because I'm going to have to replace that cushion with a new one.



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Post #13

Some wires will have to be desoldered in addition to what was already desoldered earlier...

Unsolder the white wire from the sync contact plate (fig. 12)

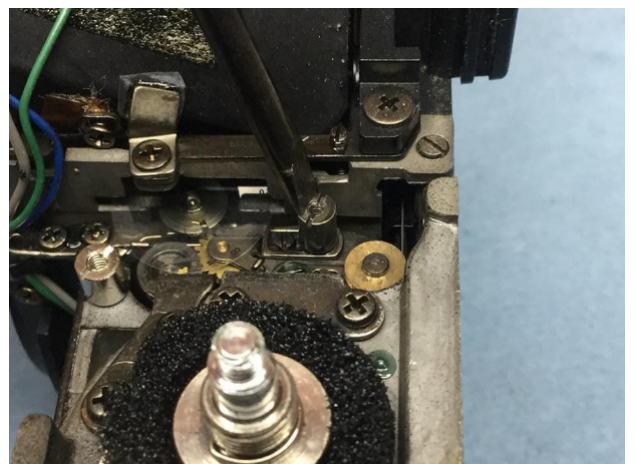
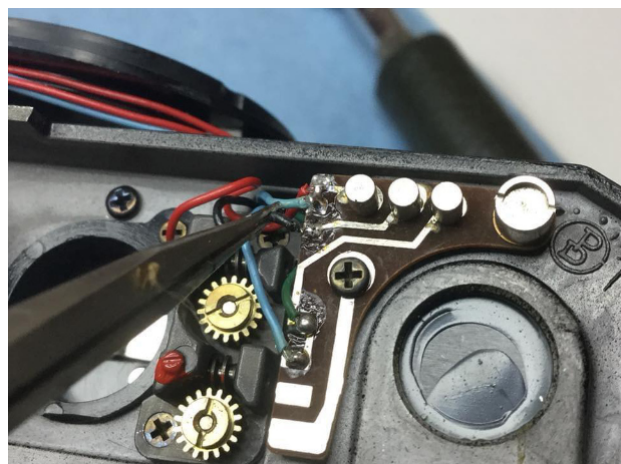
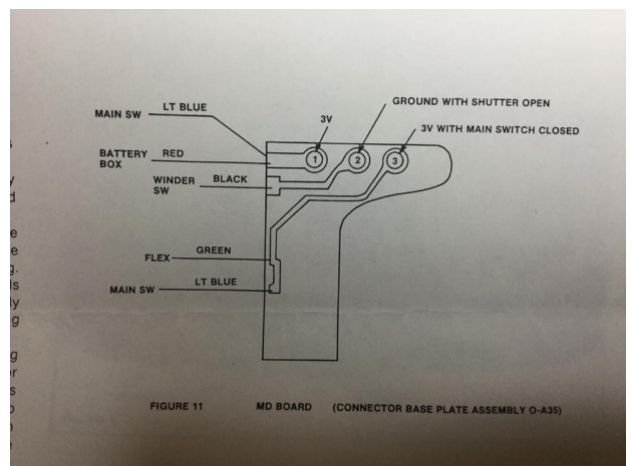
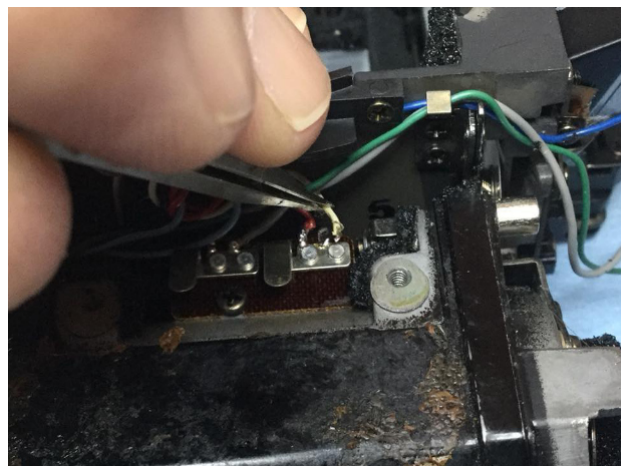
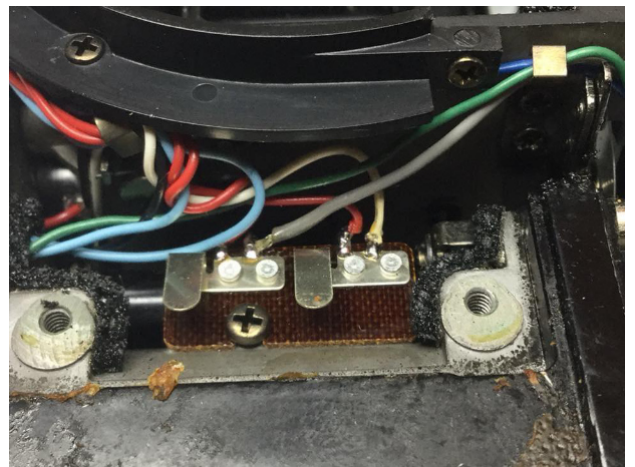
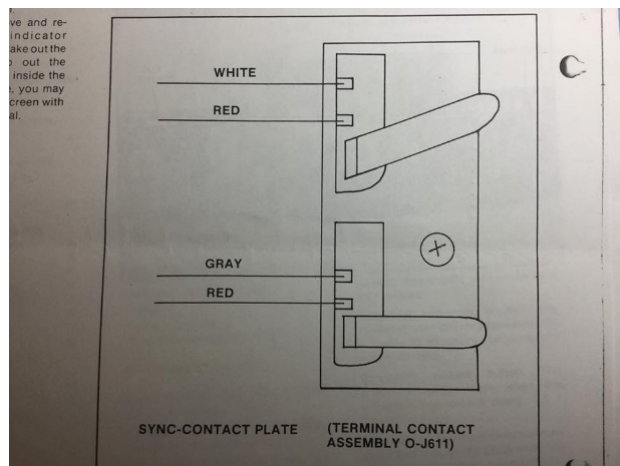
The black wire from the MD board (fig.11).

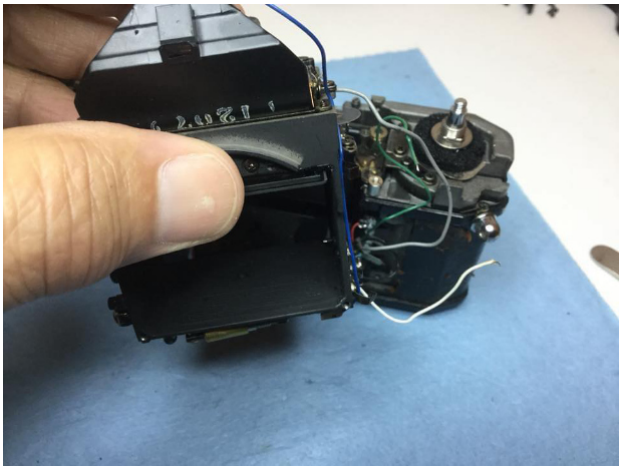
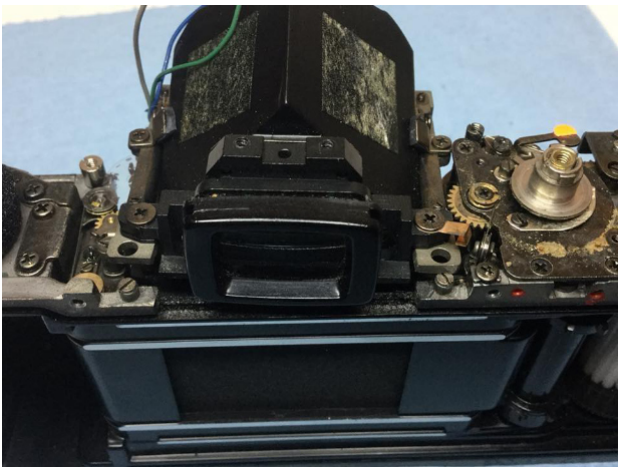
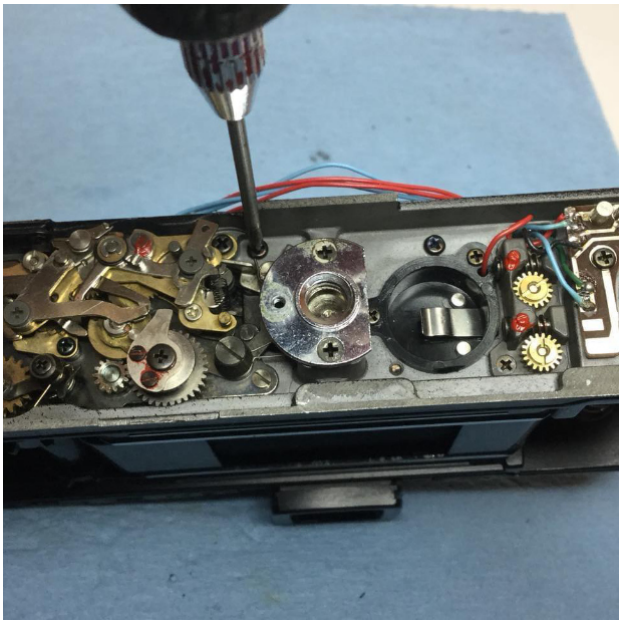
Make sure the wires are free from the retaining clip...

Loosen the flat head shoulder screw at the idler gear arm (the shoulder screw under the LED board screw with the washer) to allow the idler gear to disengage from the indicator-disc as you lift out the mirror unit.

Remove the two bottom screws holding the mirror box in place while lifting the mirror unit to clear the two shoulder screws at the top of the mirror box (you don't have to remove the screws at the top).

As you lift the mirror unit up and out (tilting it forward) watch for any wires that get caught.





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Post #14

At this point it's time to clean the body, if you have a small air compressor set a low output you can safely blow the dust and debris from the camera (do not blow directly on the shutter curtains).

The first thing I want to point out is a part often overlooked - it's the high speed cam, this cam is kicking the second curtain out of engagement at the high speeds, it has two bearing surfaces that are often left without lubrication. Remove the three screws holding the shutter speed baseplate and lift it carefully keeping the wire for the shutter speed indicator from getting tangled or damaged, the cam may fall out as it's loose as is the small brass spacer washer that fits under the slot that fits over the coupling lever.

Clean the cam, oil the bearings and reinstall it making sure the cam is coupled the disengagement assembly isn't pinched underneath and the slow speed governor shaft is coupled properly (it's tedious).

Next locate the shutter curtain bearings at the ends of each curtain roller, the gears at the bottom that are connected and oil the bearings - one drop is sufficient, don't over oil it, the oil will fling inside the camera while operating the shutter.

I like to let the oil soak in overnight to avoid having to readjust too many times (the oil will settle in and reach hidden places, the shutter will operate quieter and hopefully only required a minor adjustment when it's working properly).

After this point in the service, reassembly is the reverse of disassembly, I replaced the seals, finished cleaning it and adjusted the shutter speeds and meter readout....

In another series of posts I'll show every step to finish... I have two more to service.

