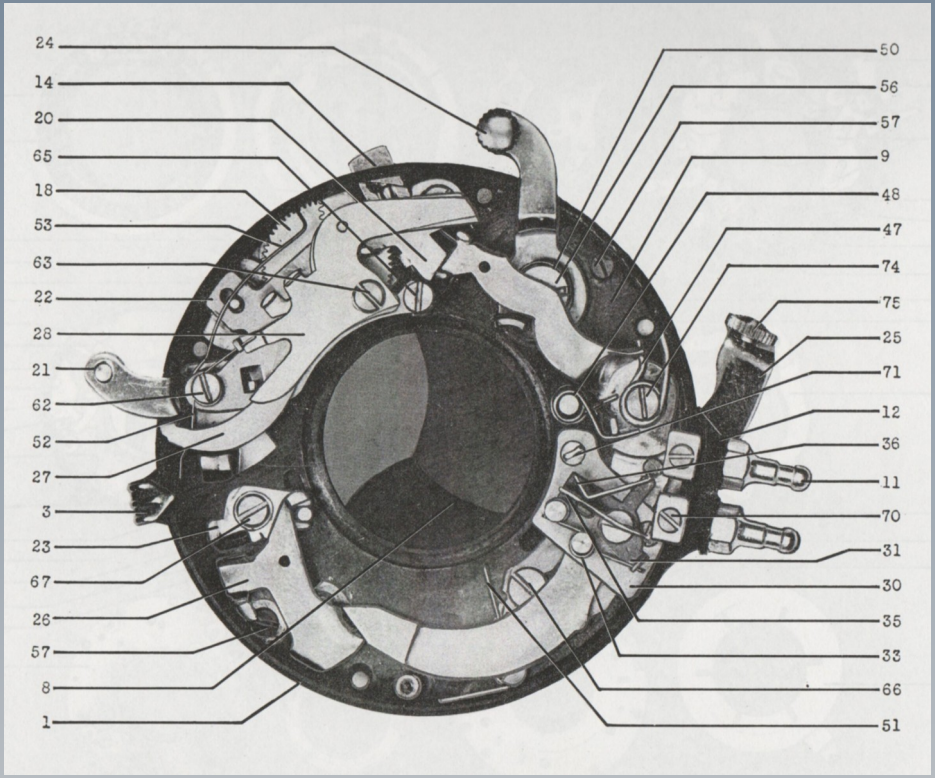


Honeywell/Pentax Spotmatic SP II CLA

Tutorial by Eugene Pate

https://learncamerarepair.com/

https://www.facebook.com/groups/360490091319202/

Post #1

https://www.facebook.com/groups/360490091319202/?post_id=585244602177082

Upon initial testing the shutter speeds are out of tolerance and the exposure meter isn't working properly.

The camera looks well used but no damage and internally disregarding the dust it's been well taken care of with no signs of corrosion except for the pesky battery cover and that's the result of its close proximity to the mercury battery.

Light seals and cushions will have to be replaced after cleaning and lubricating.


BATTERY
OPEN


OPEN

Post #2

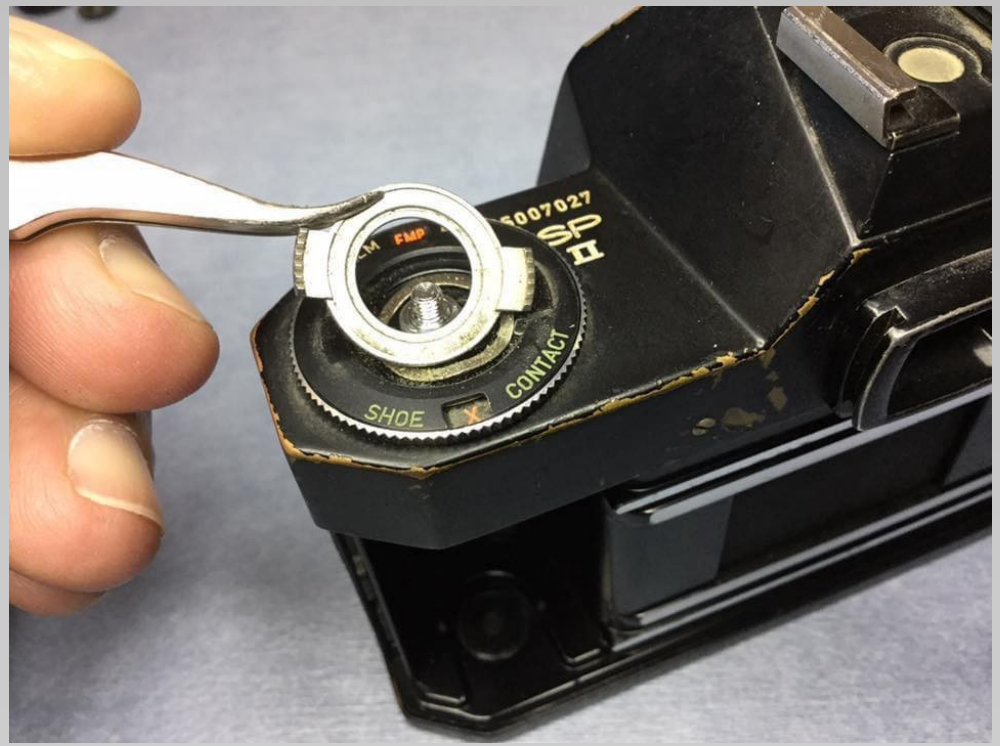
https://www.facebook.com/groups/360490091319202/?post_id=585245582176984

As in previous Spotmatic posts I start by removing the rewind knob and reminder dial parts.

Note the ball bearing that acts as a "detent" pointed out in the photos, I use a magnetic driver tip to lift it out of its hole and set it aside so it doesn't get lost.

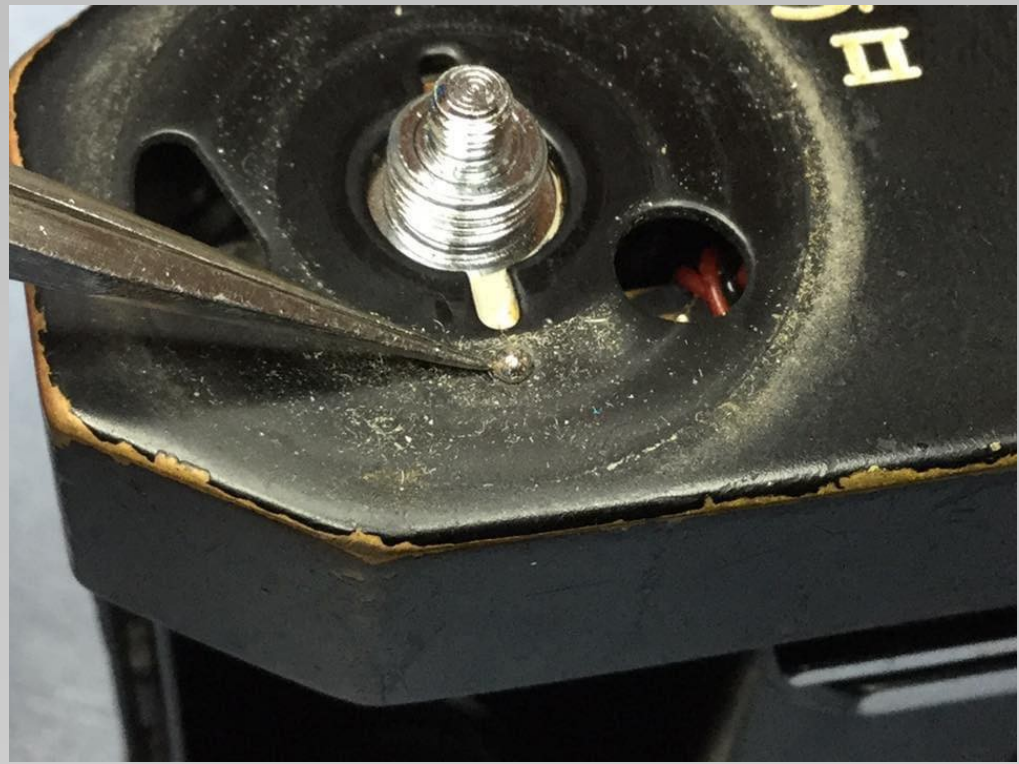

FILM 86
SHOE
X


5007027
SP
SHOE
X
CONTACT


SHOE
CONTACT
SP


SHOE
CONTACT
SP


6007027
SP
II

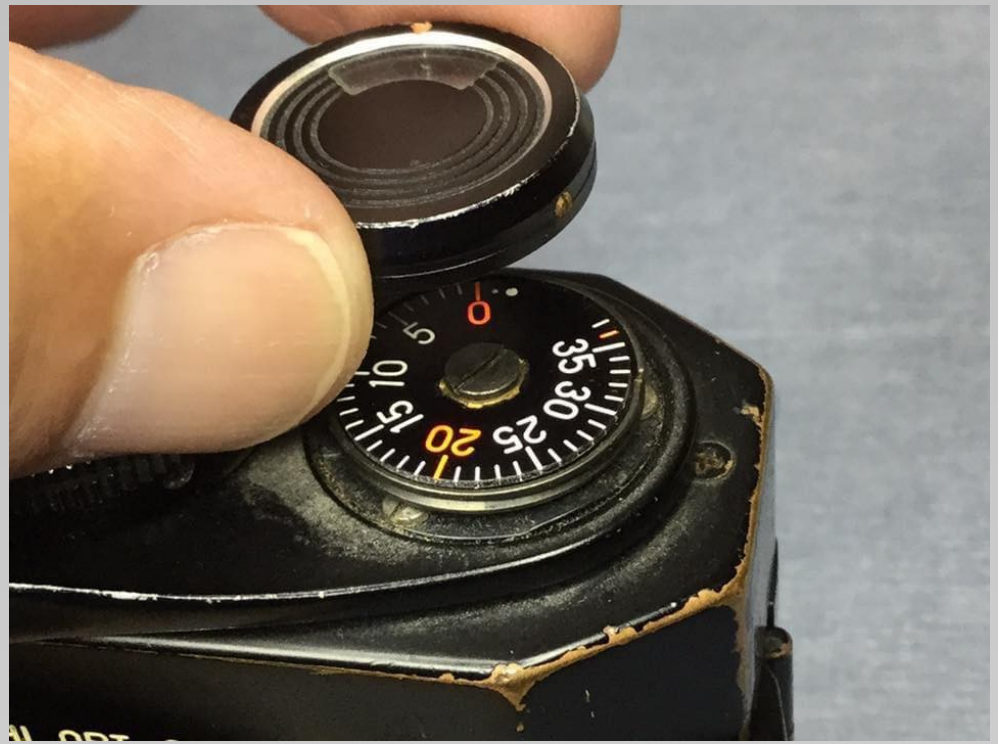

II


5007027
SP
II

CLA Post #3

https://www.facebook.com/groups/360490091319202/?post_id=585247048843504

Next loosen the three setscrews holding the frame counter cover in place, lift it off, remove the counter dial (lefthand thread), the spanner nut, dial housing, three screws holding the winding lever and friction spring, note the notched white nylon washer between the lever and body. Set these parts aside.


0
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60x
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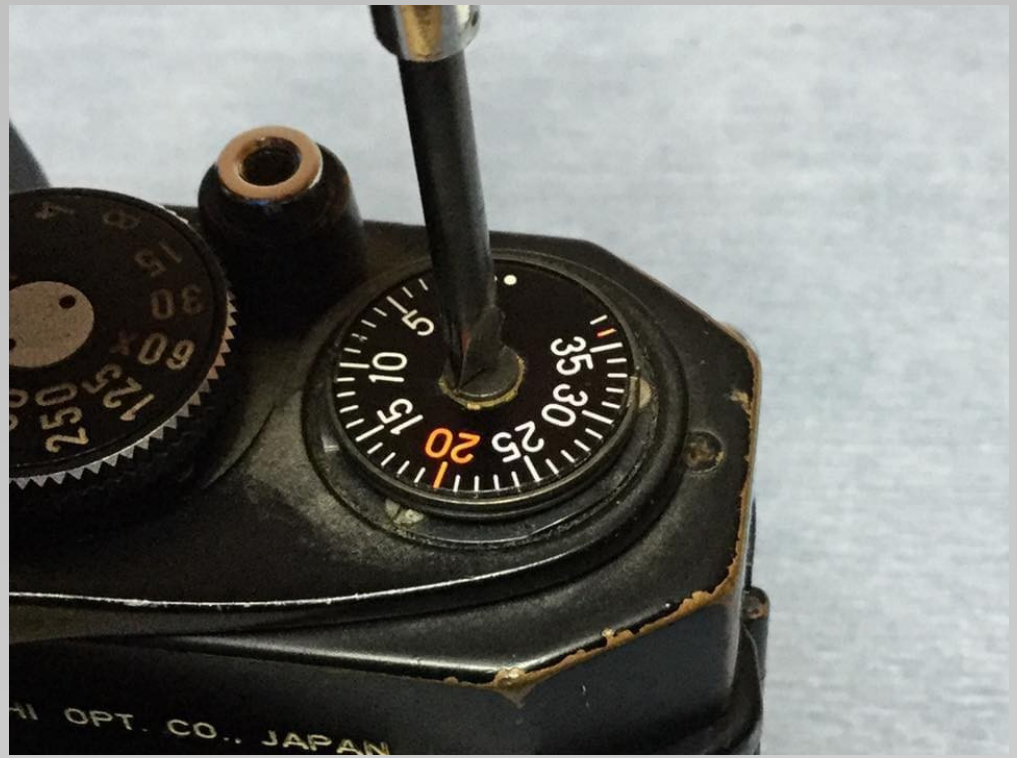
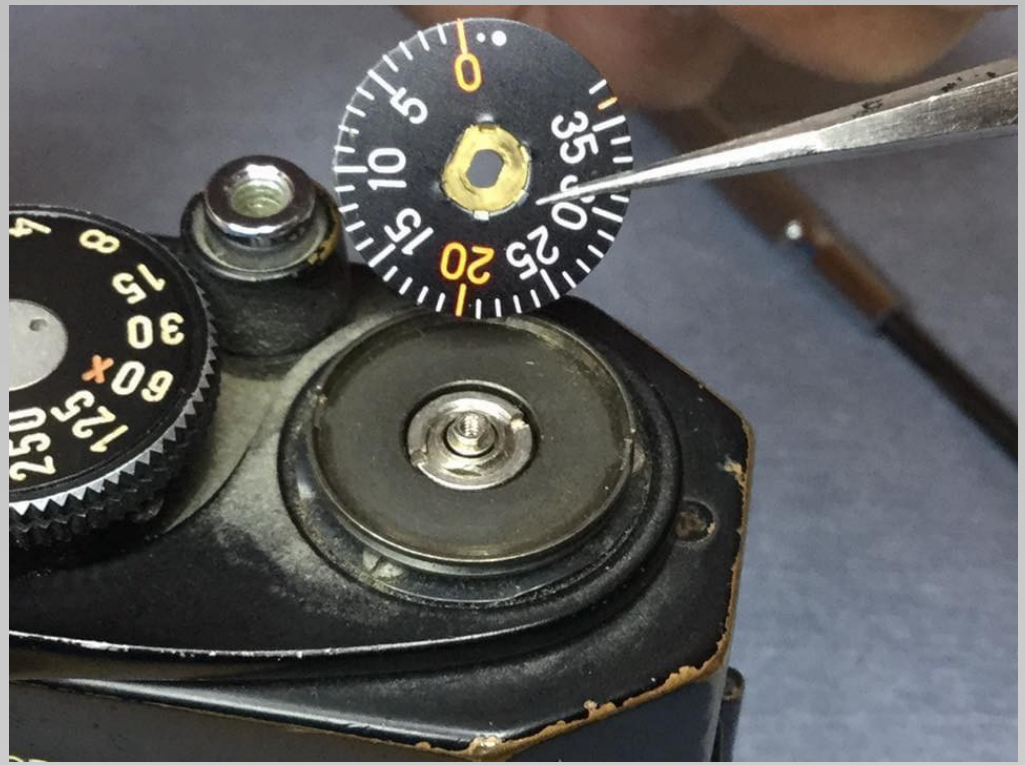

OPT. CO., JAPAN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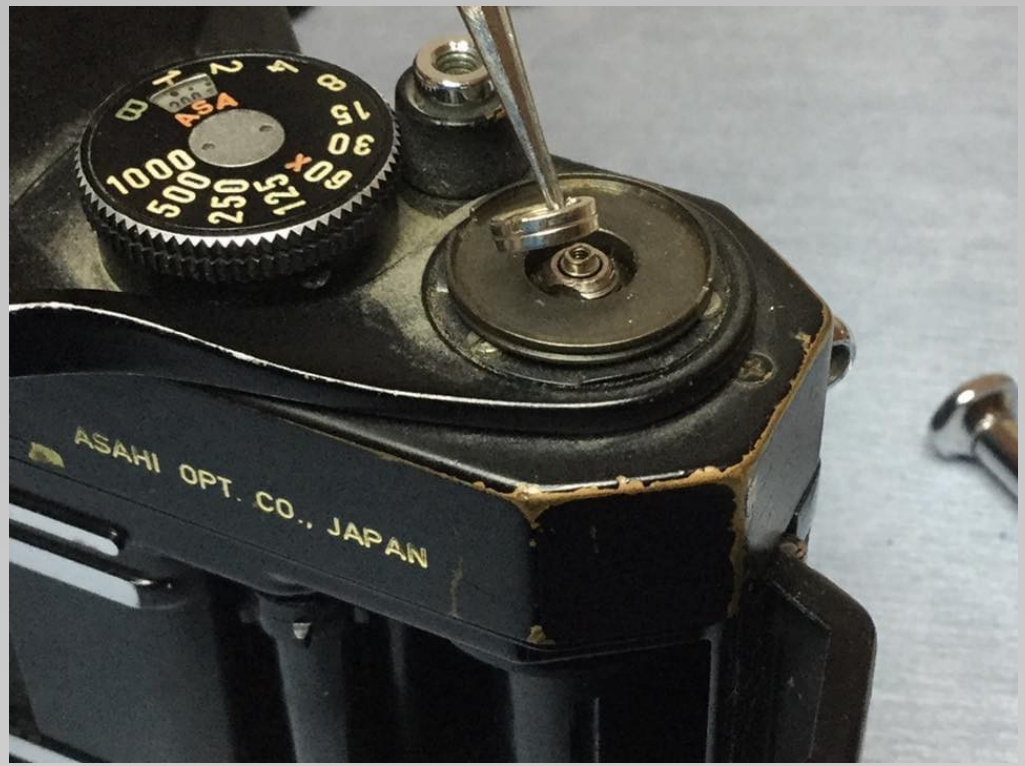
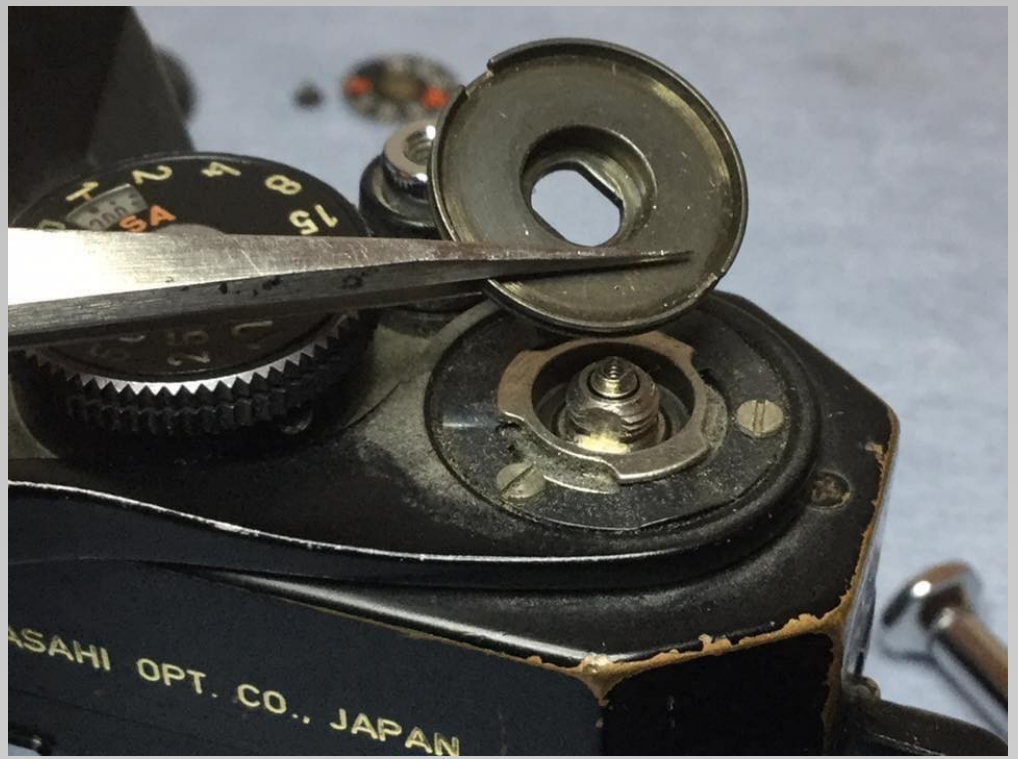
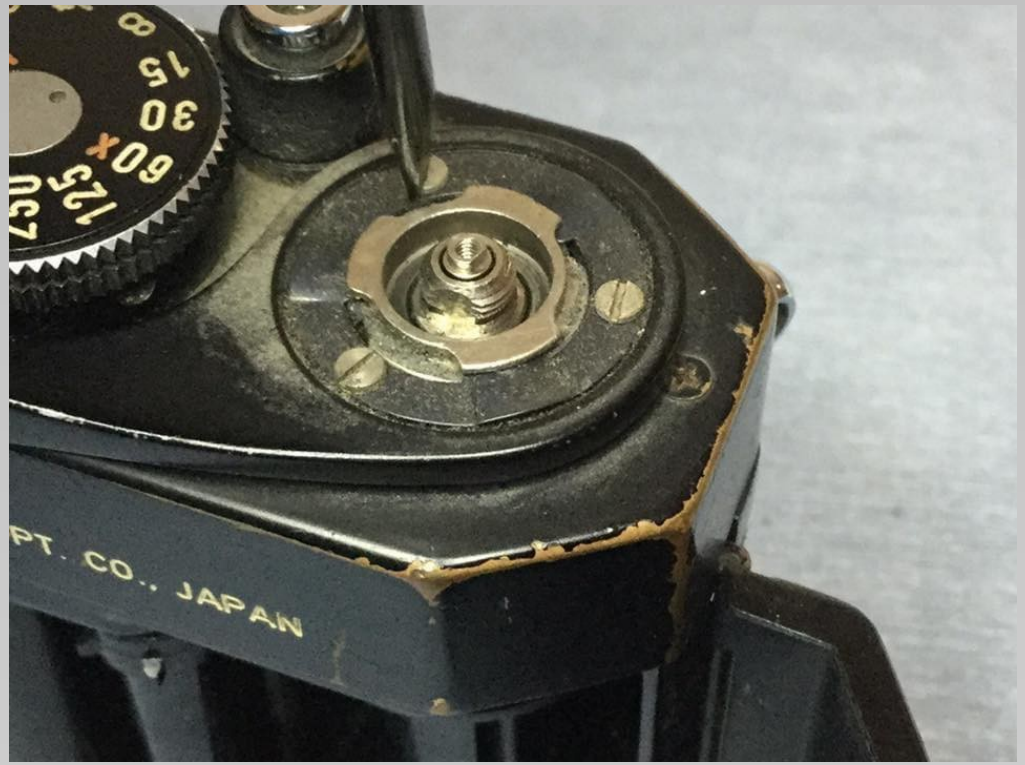
125
60x
30
15
8
4


ASA
1000
500
250
125
OPT. CO., JAPAN


B T 2 4 8 15 30 60X 125 250 500 1000
ASA
ASAHI OPT. CO., JAPAN


T 2 4 8 15
ASA
ASAHI OPT. CO., JAPAN


8
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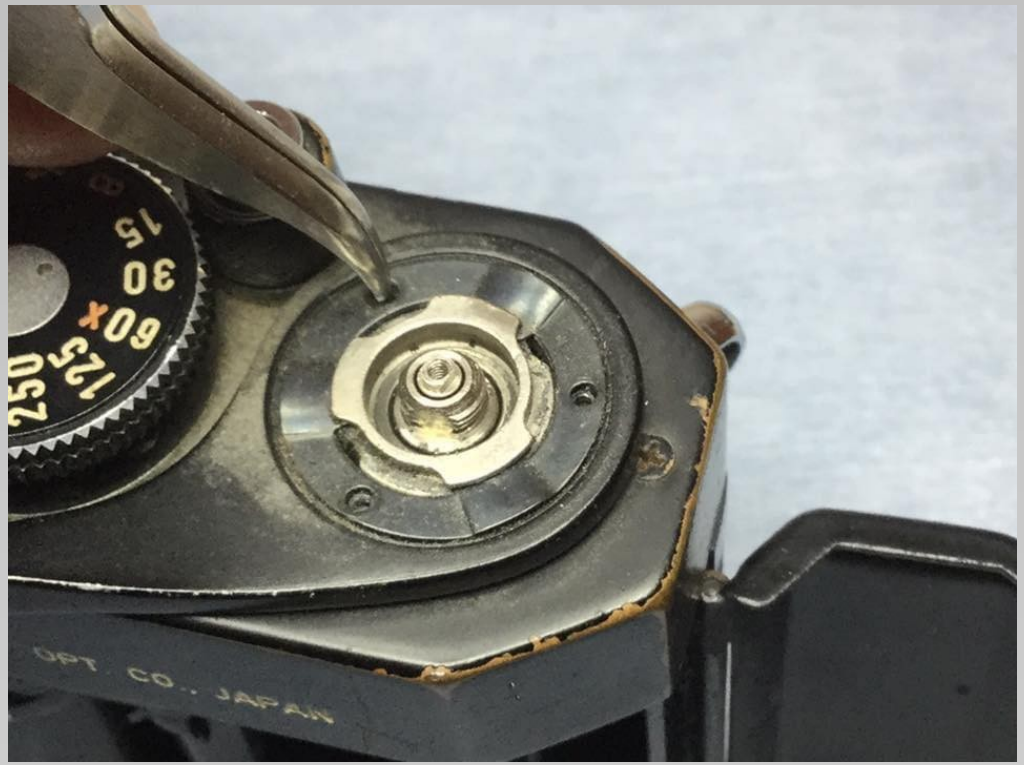
PT. CO., JAPAN


8
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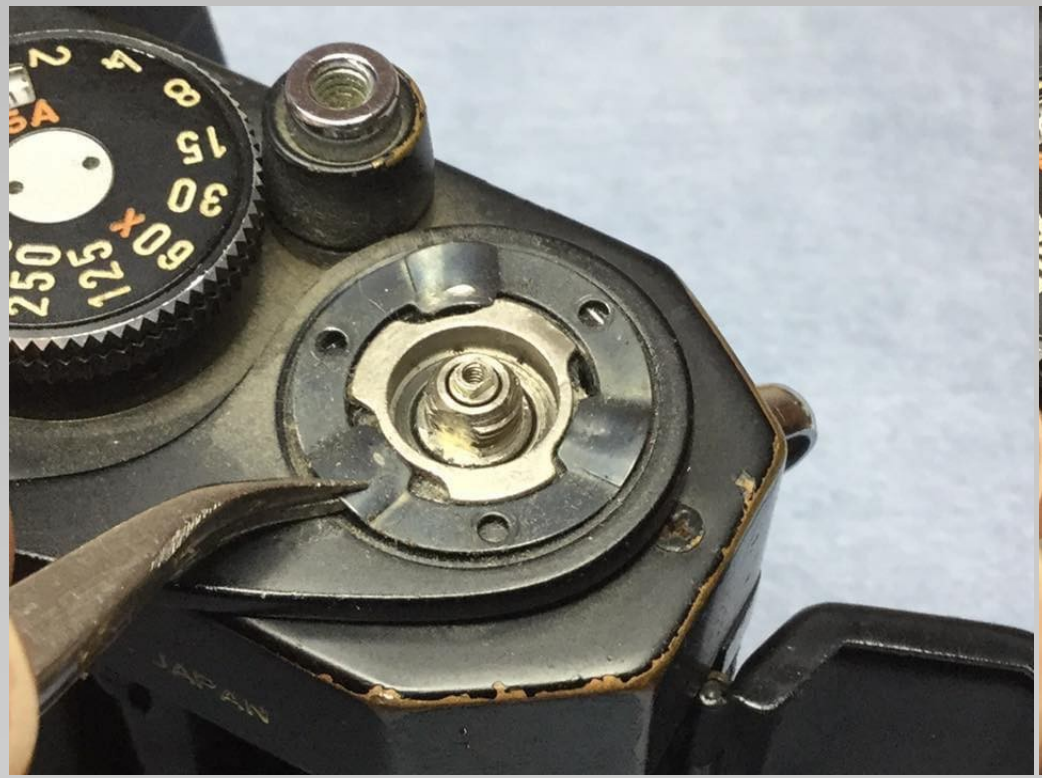
OPT. CO., JAPAN


2
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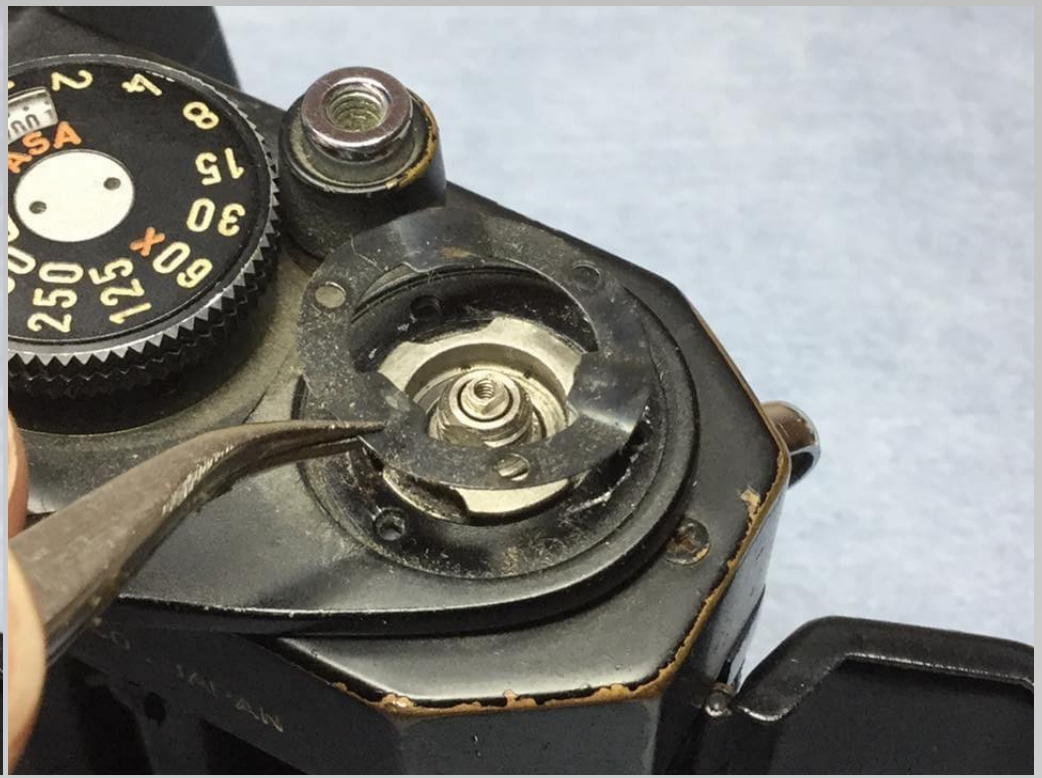
JAPAN


2
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60x
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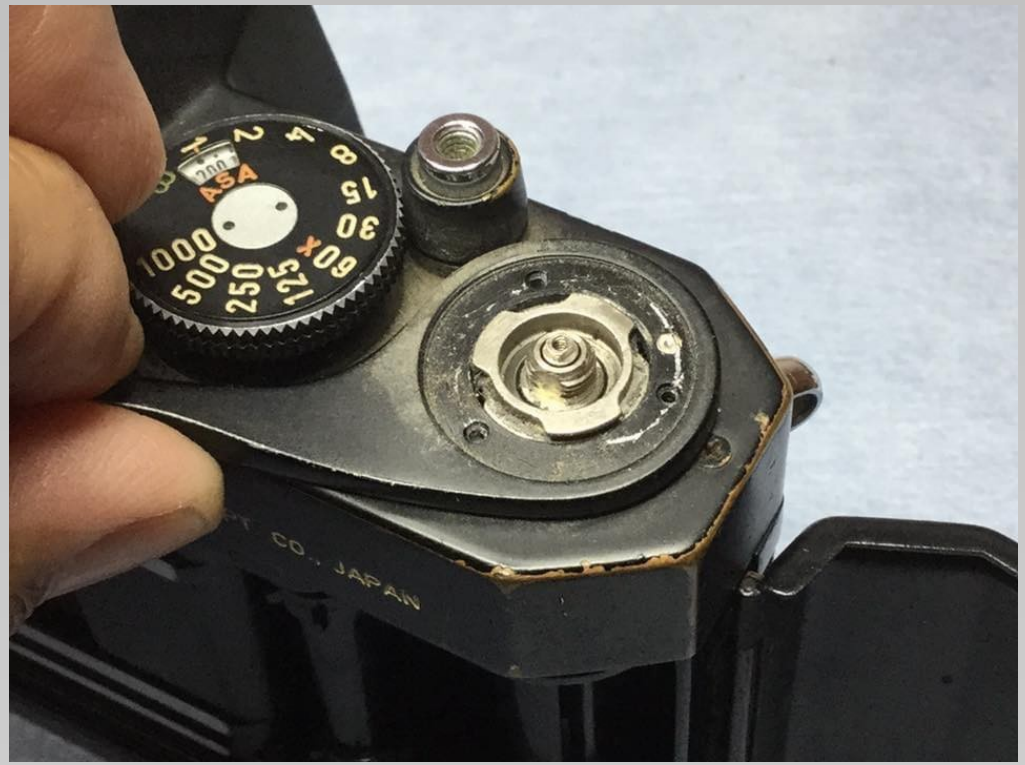
JAPAN


ASA
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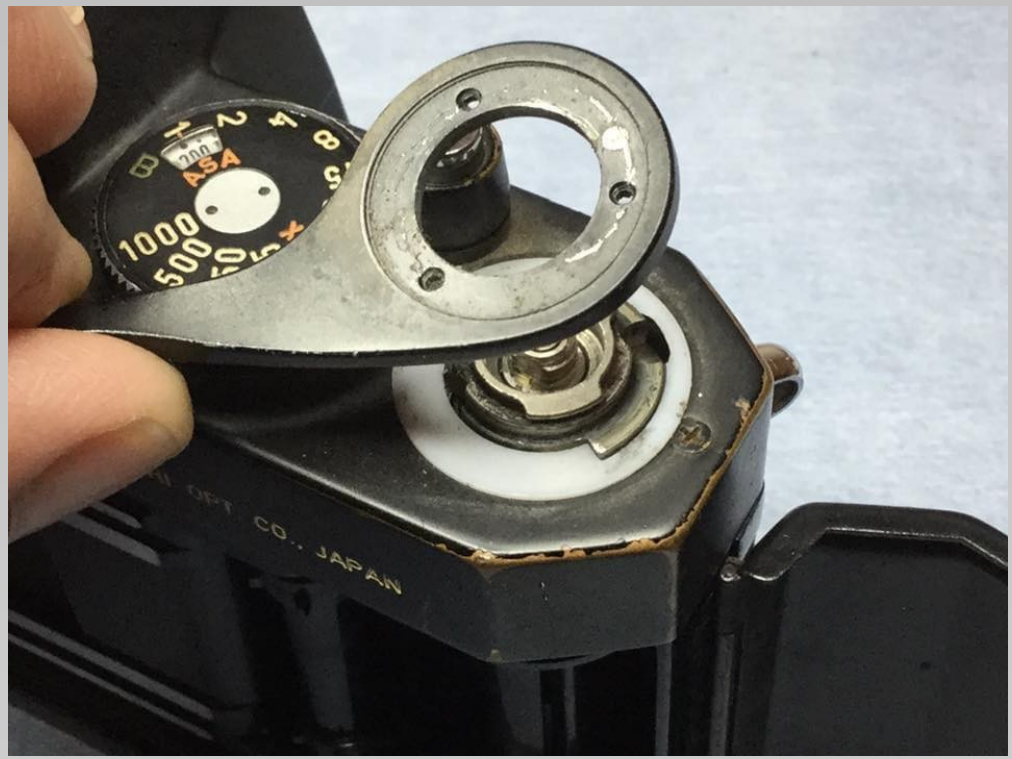
1
200
JAPAN


ASA
1000
500
200
JAPAN


B
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30
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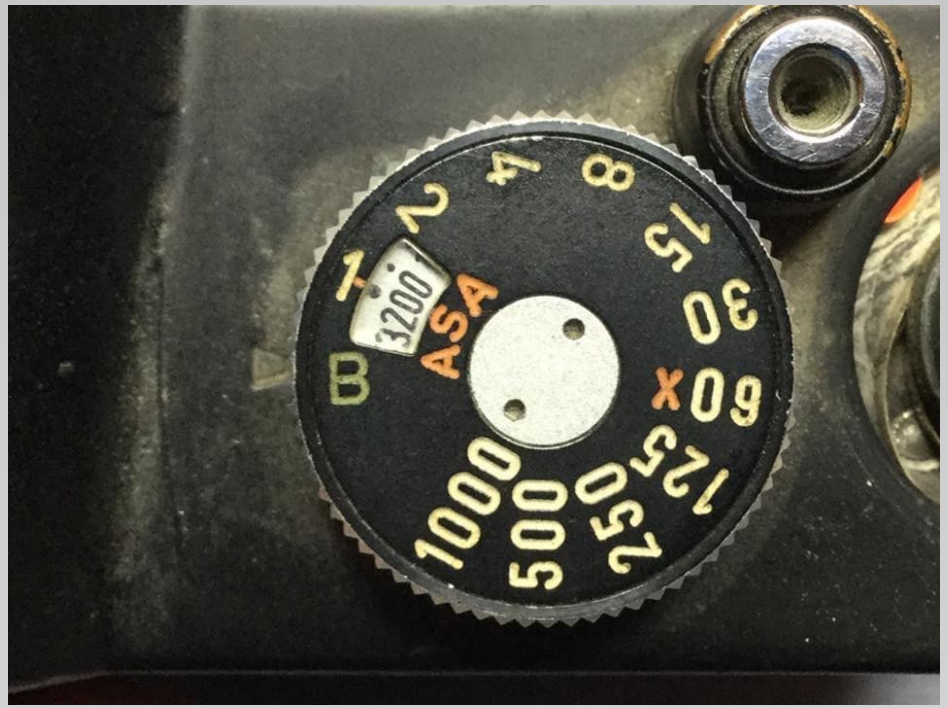
125
250
500
1000
ASA
200
ASAHI OPT
JAPAN

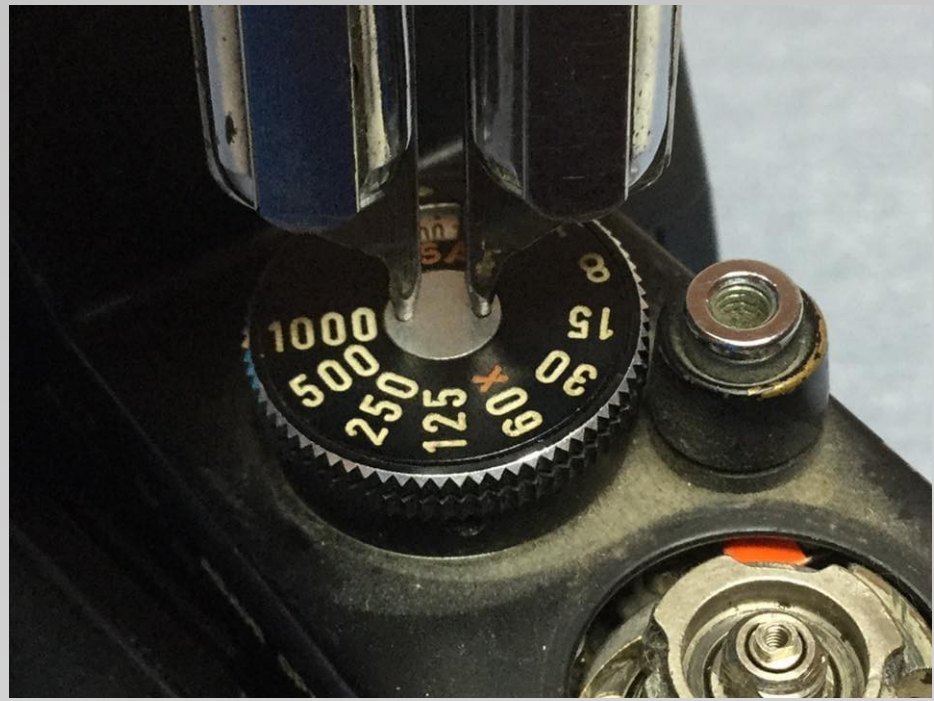
CLA Post #4

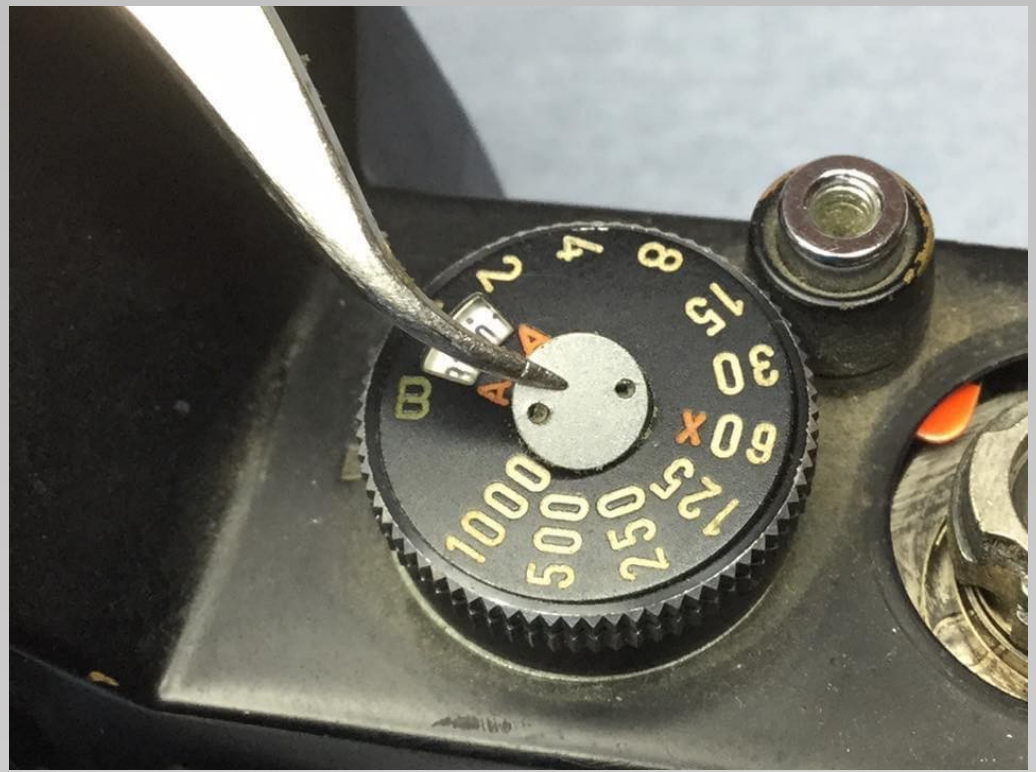
https://www.facebook.com/groups/360490091319202/?post_id=585248378843371

Set the shutter speed selector to "Bulb" ASA 3200 -

Remove the spanner screw holding the shutter speed selector, the dials will be loose, remove these and the spring, lift off the dial noting the slot that receives the protrusion from the dial below (these have to line back up upon reassembly) hence... set "B" and ASA 3200 to make it easier.






B
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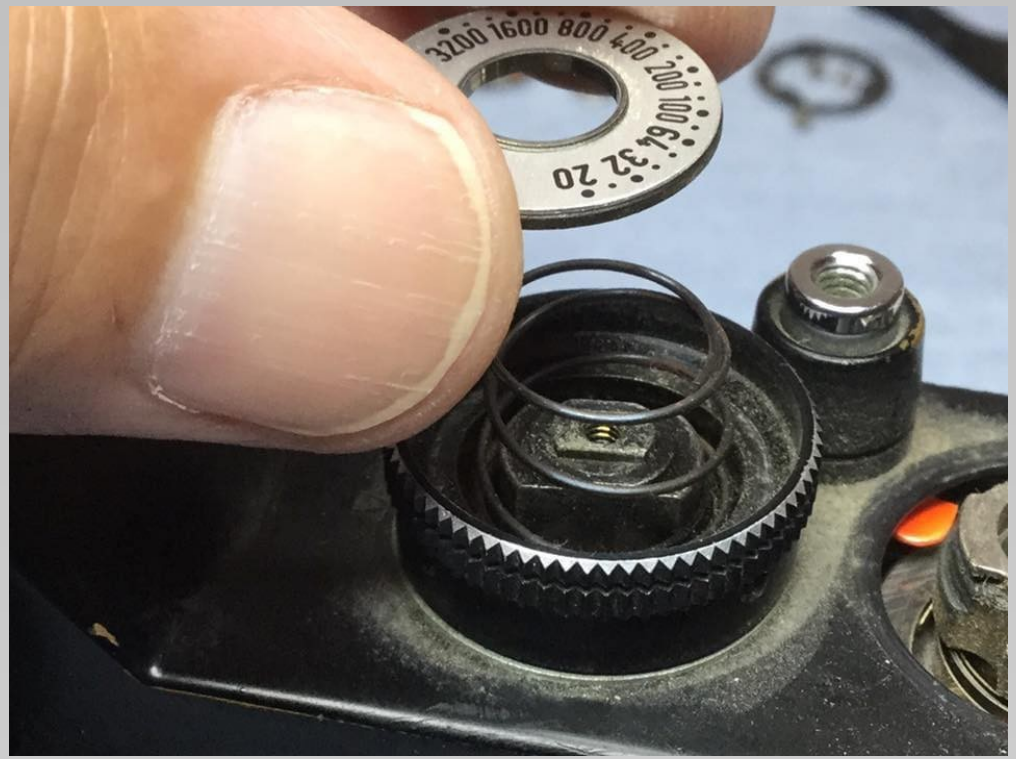
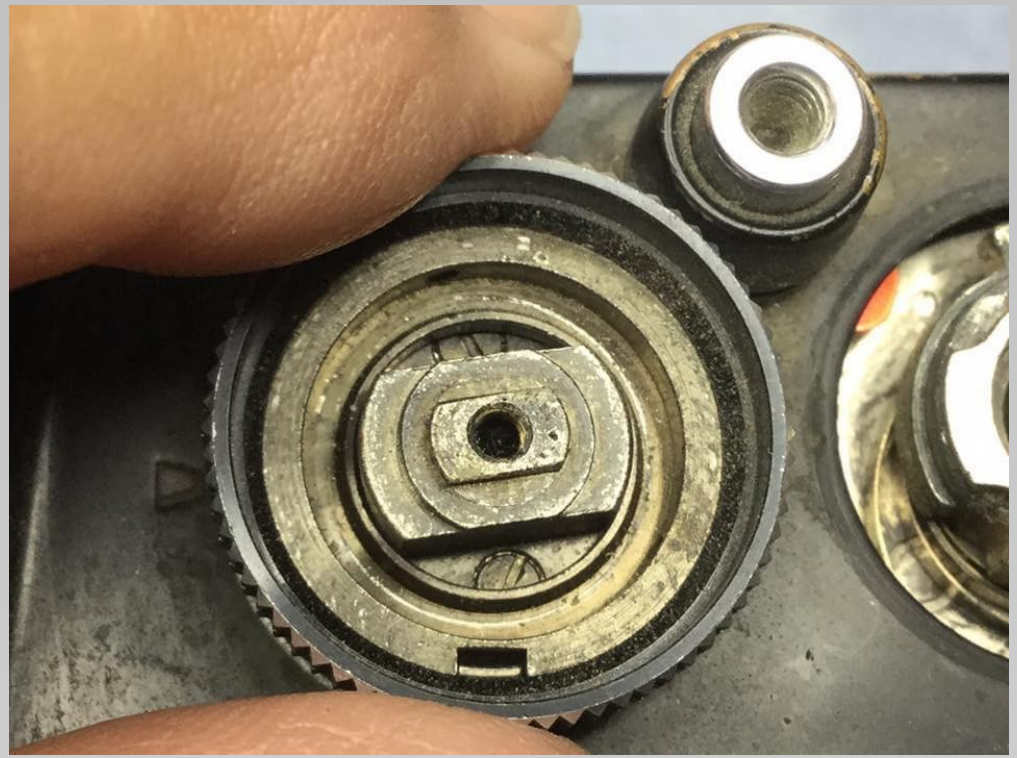
30
60
X
125
250
500
1000


B
A
1
8
15
30
60
X
125
250
500
1000


B
1
2
4
8
15
30
60
125
250
500
1000
ASA


ASA
3200
1600
800
400
200
100
64
32
20

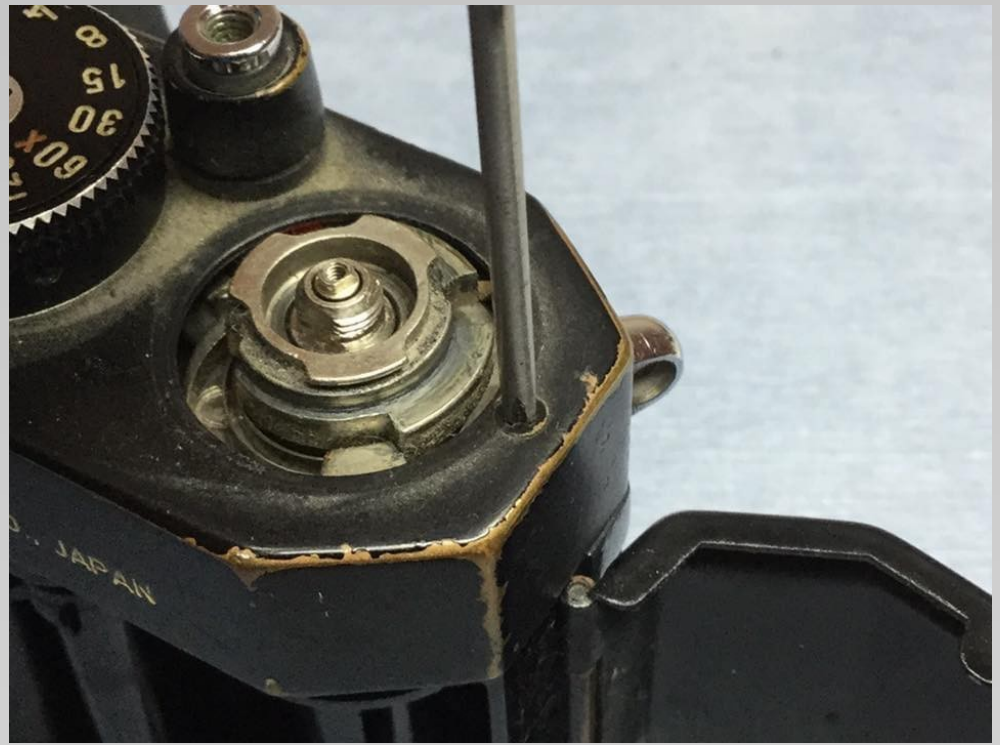

3200 1600 800 400 200 100 50 25 12 6
20



CLA Post #5

https://www.facebook.com/groups/360490091319202/?post_id=585249315509944

Time to remove the top cover, one screw by the winding unit, two screws by the eyepiece and Pentax got a little sneaky in this model and put a screw in the mirror box at the top that holds the top cover prism cover area down (this screw is not there in some other models)

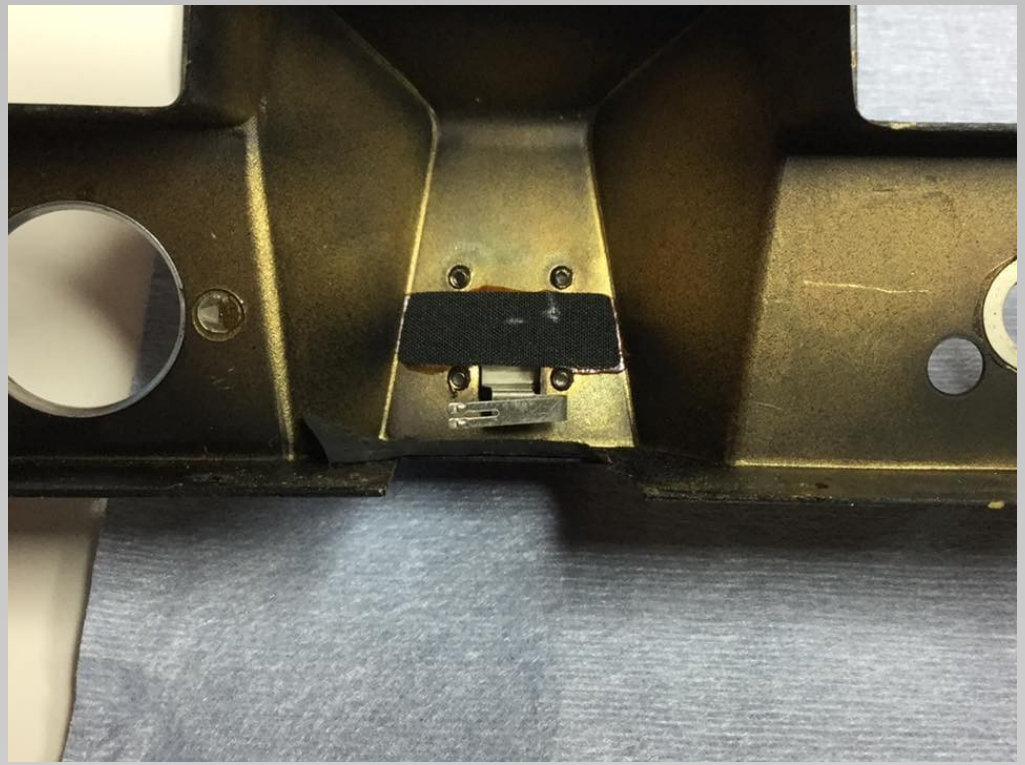



HONEYWELL
PENTAX


HONEYWELL
PENTAX


HONEYWELL
PENTAX
OTMATIC


ASAHI OPT. CO., JAPAN



CLA Post #6

https://www.facebook.com/groups/360490091319202/?post_id=585250118843197

Trivia time - it's my understanding that following World War II Japanese products made for import to the USA had to pass through a US distributor and could not be sold directly to US consumers ... hence the name Honeywell on the camera cover...

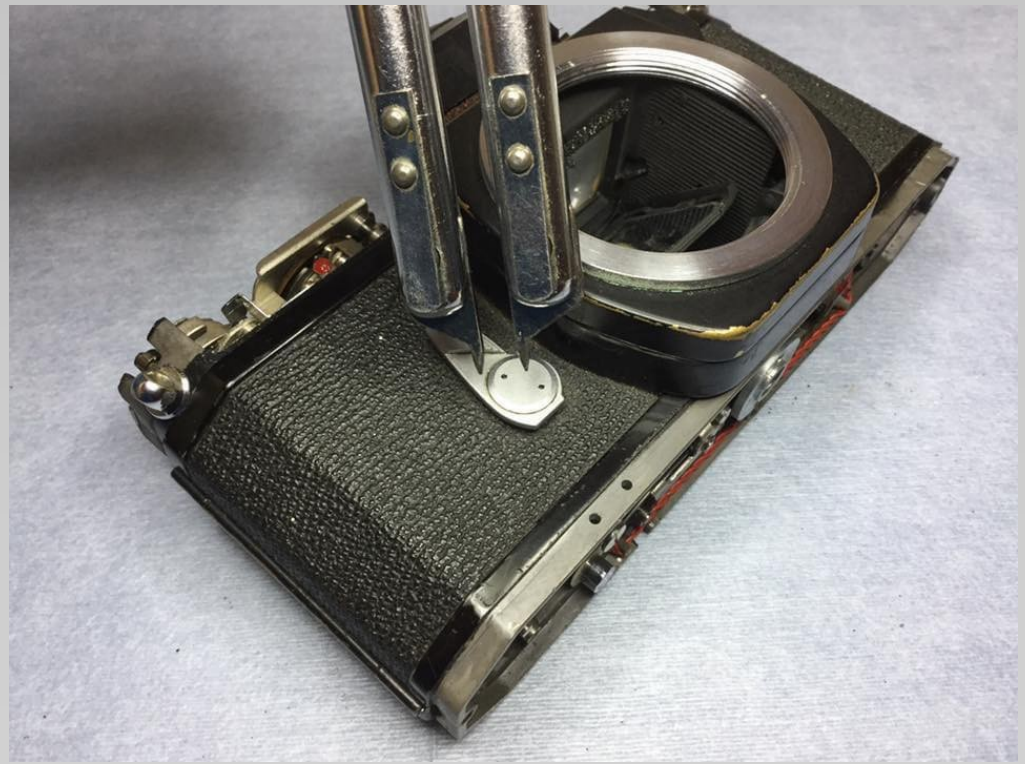
If you didn't already remove the four screws holding the bottom cover do it now, note the white nylon washer on the rewind button, don't lose it. Set these parts aside.

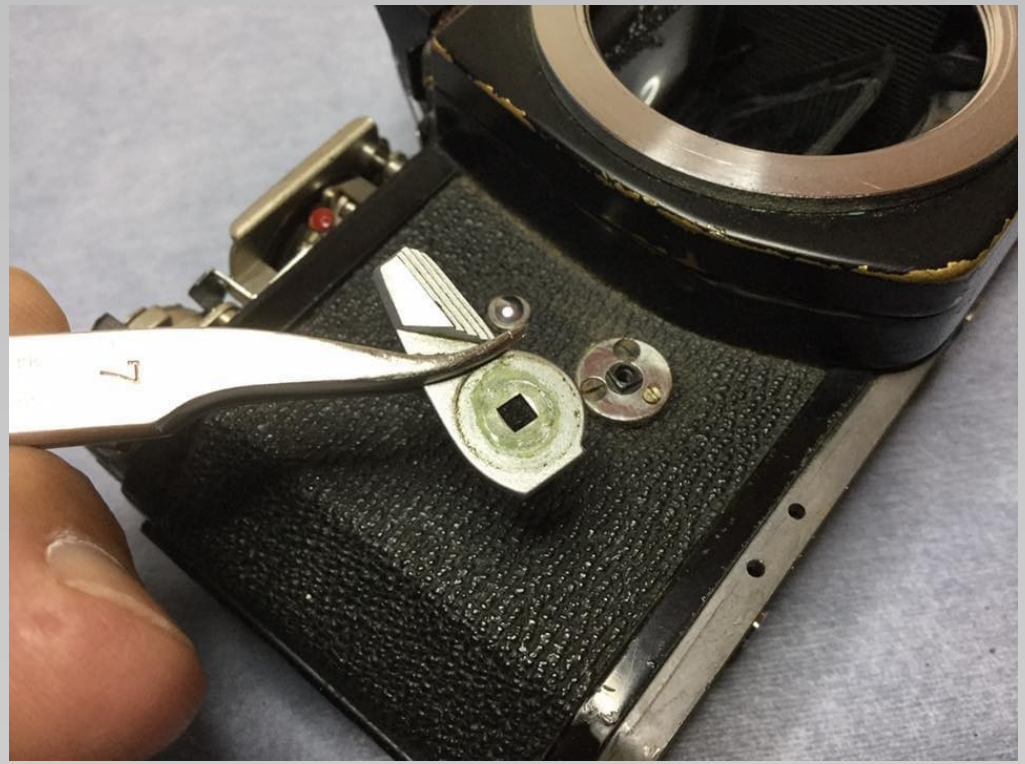

HONEYWELL
PENTAX

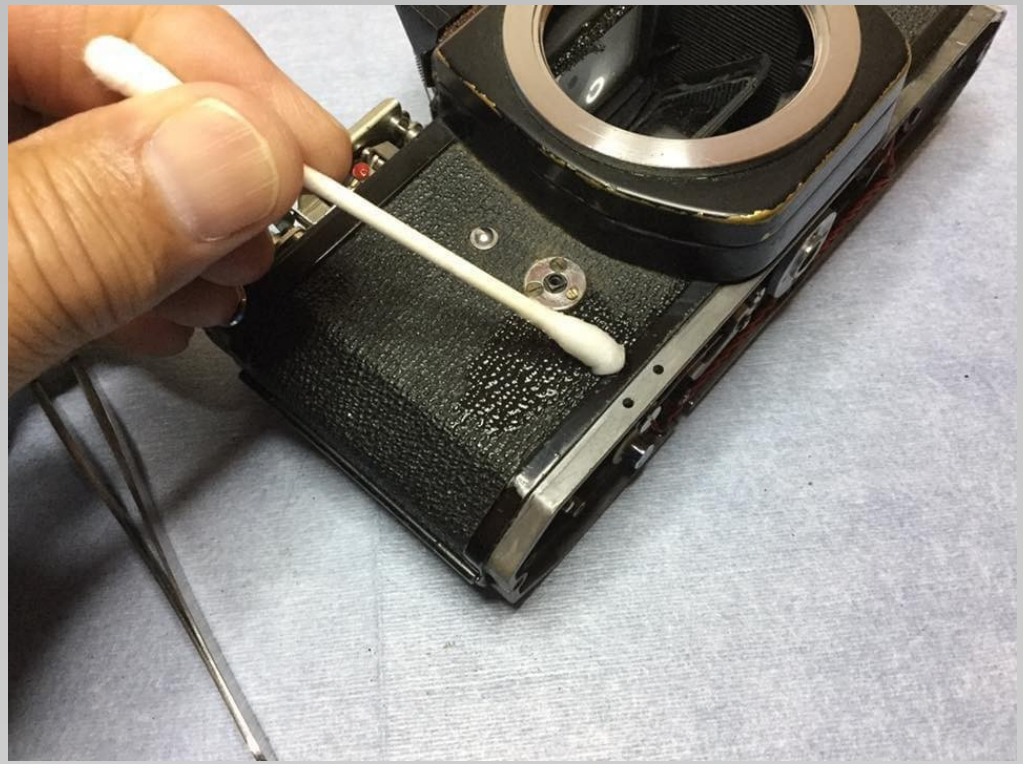
CLA Post #7

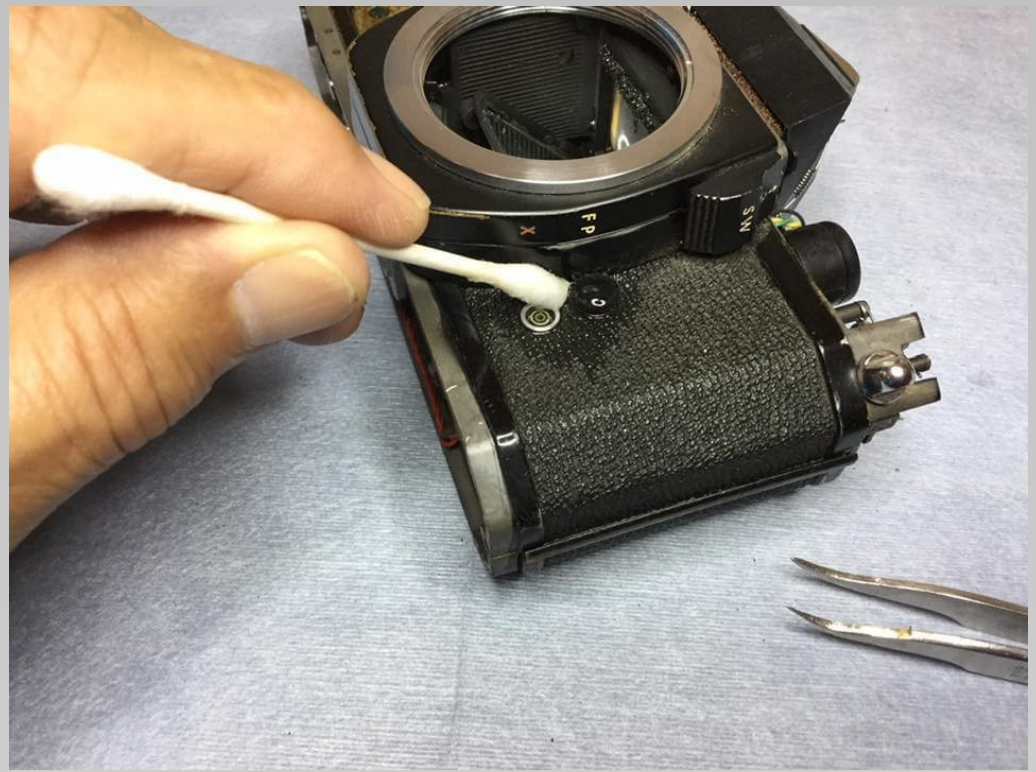
https://www.facebook.com/groups/360490091319202/?post_id=585251195509756

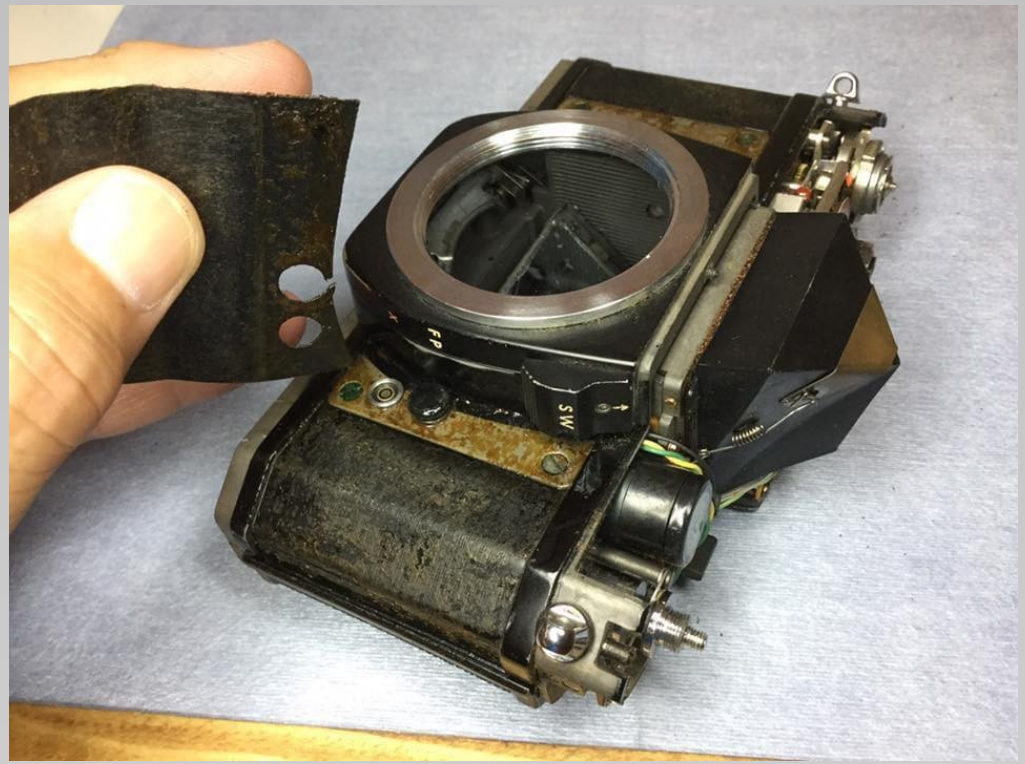
Remove the spanner screw holding the self-timer lever, lift off the lever, set these parts aside and use a q-tip dipped in alcohol to dab alcohol on the edges of the leatherette to make lifting them off easier ... don't tear the leatherette.

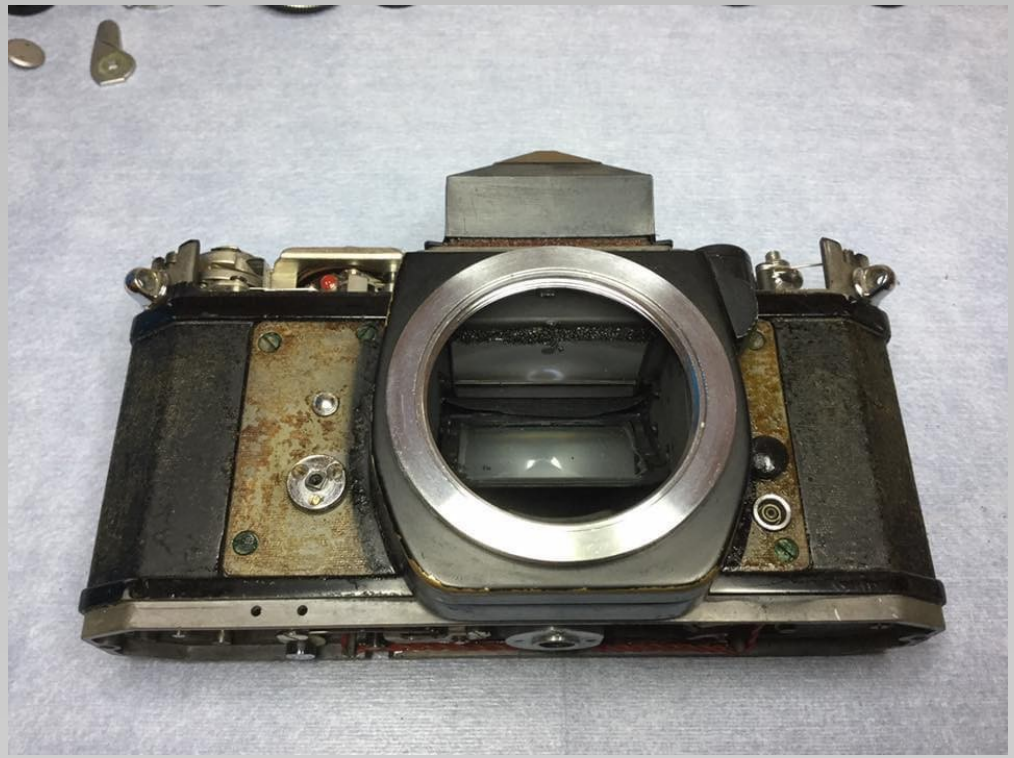







FP
X
SYNC


FP
SW



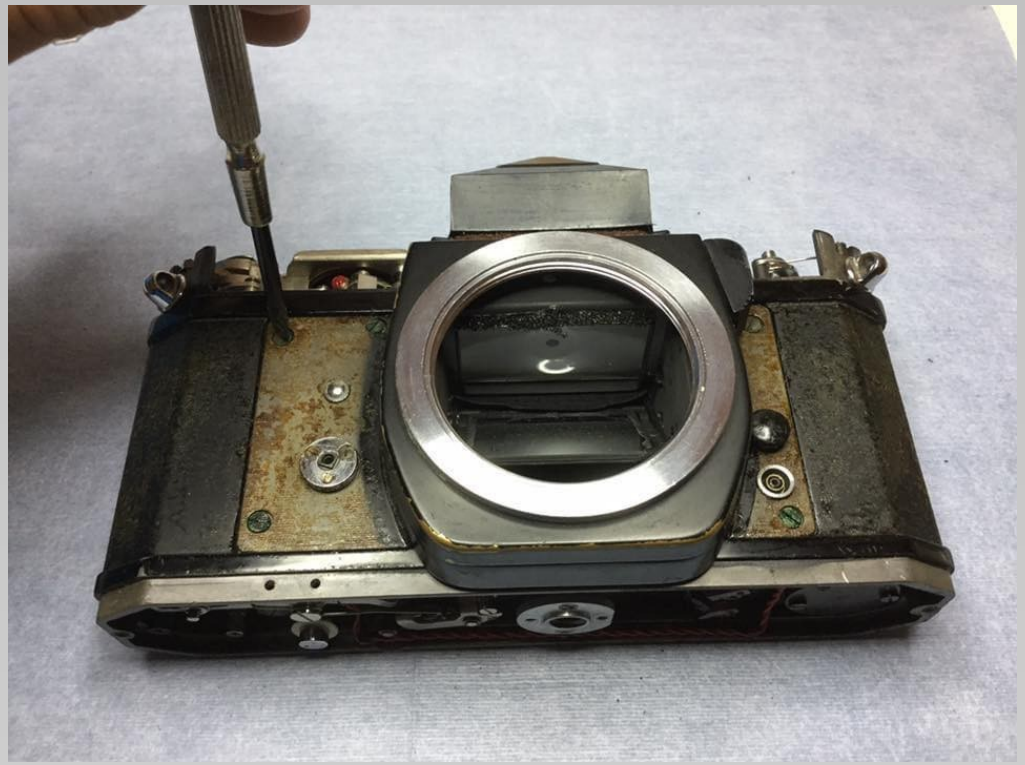
CLA Post #8
https://www.facebook.com/groups/360490091319202/?post_id=585252795509596

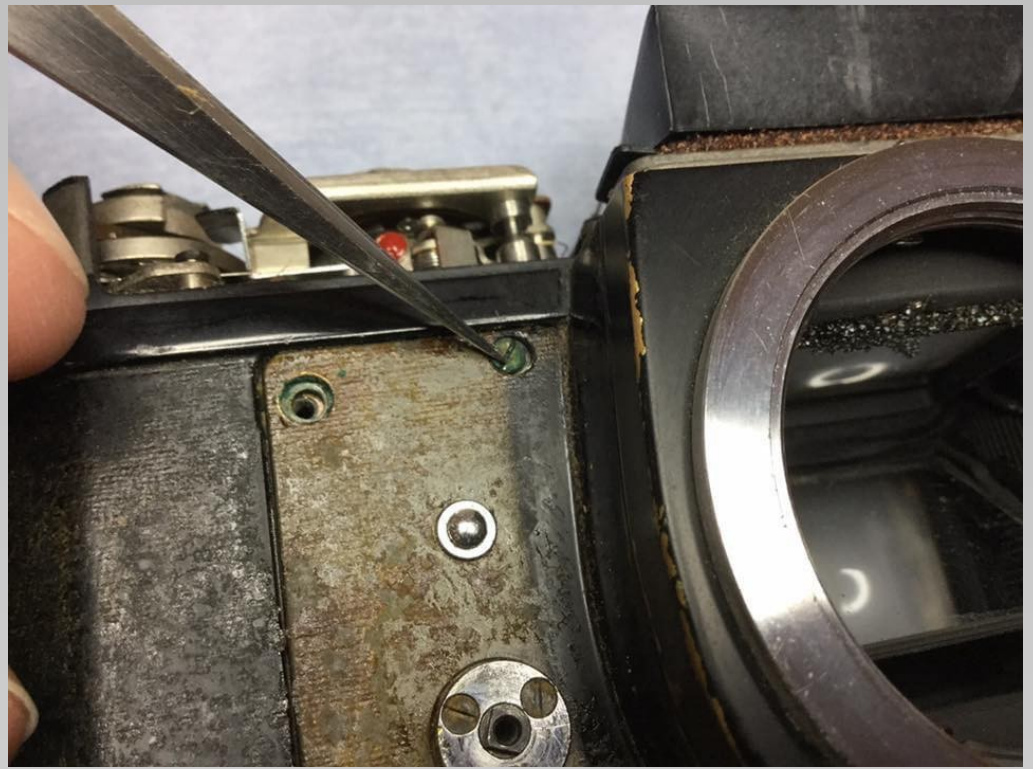
Find the five front plate screws holding the front plate down, note the screw next to the lens mount is smaller than the other screws and a different thread, remove the screws and set them aside, lift of the plate carefully! There are loose spacer washers underneath where the screws pass through the front plate - sometimes there are multiple washers in one spot and they have to go back to exactly where they were originally - this is how the factory adjusted the lens flange to focal plane distance and it has to be precise!

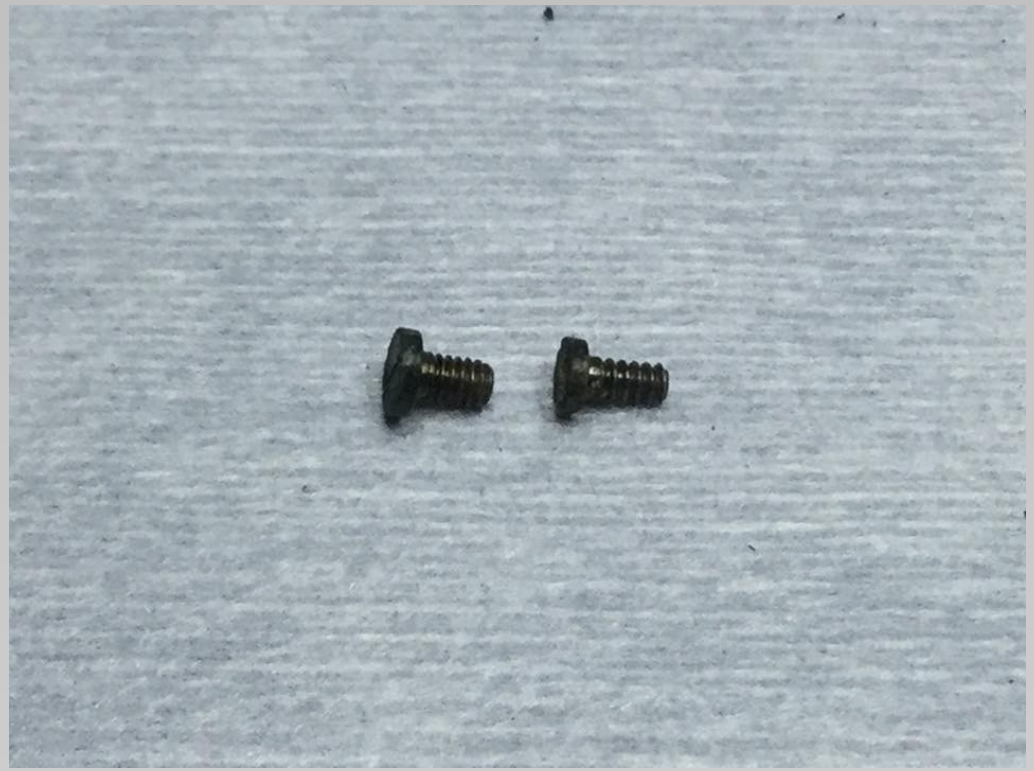
I usually use a drop of clear fingernail polish to "paint" these screws in place (some techs use grease) ... my wife still doesn't know what happens to her clear nail polish ...LOL...

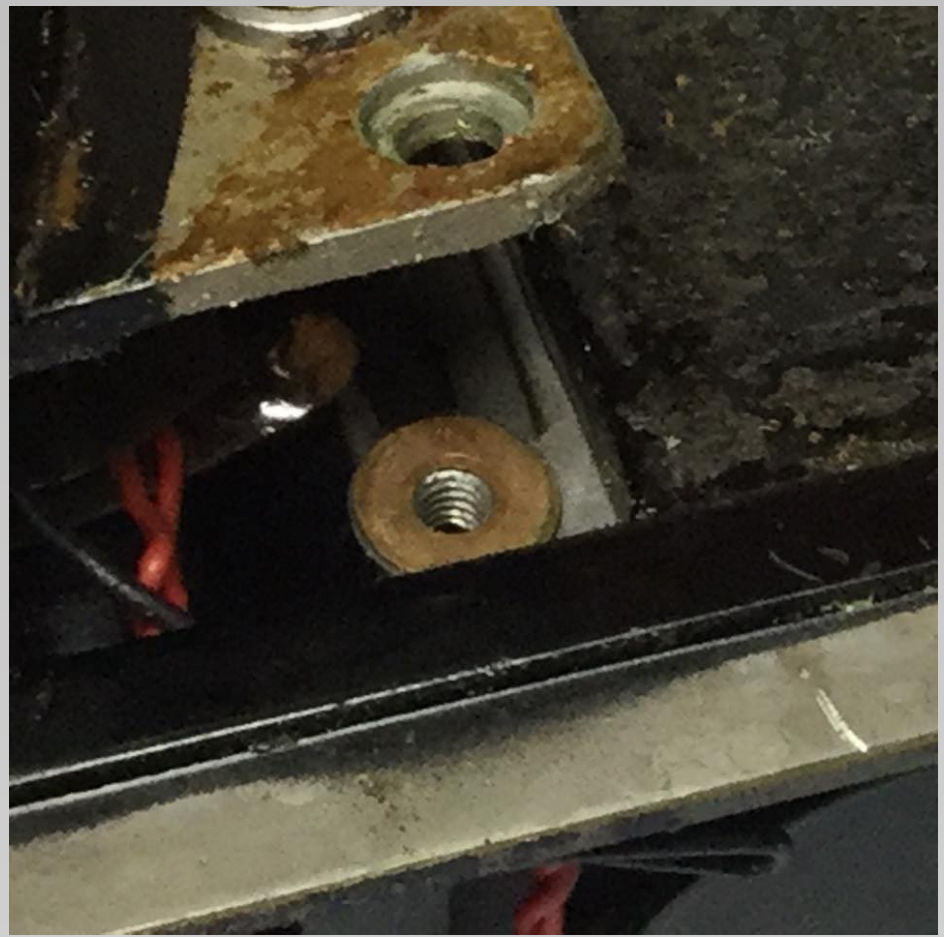
There is a slotted bushing loose that in this case is stuck to the self timer assembly, to avoid losing it I stick it in the mating slot where the self timer lever "keys" to the self timer bushing.

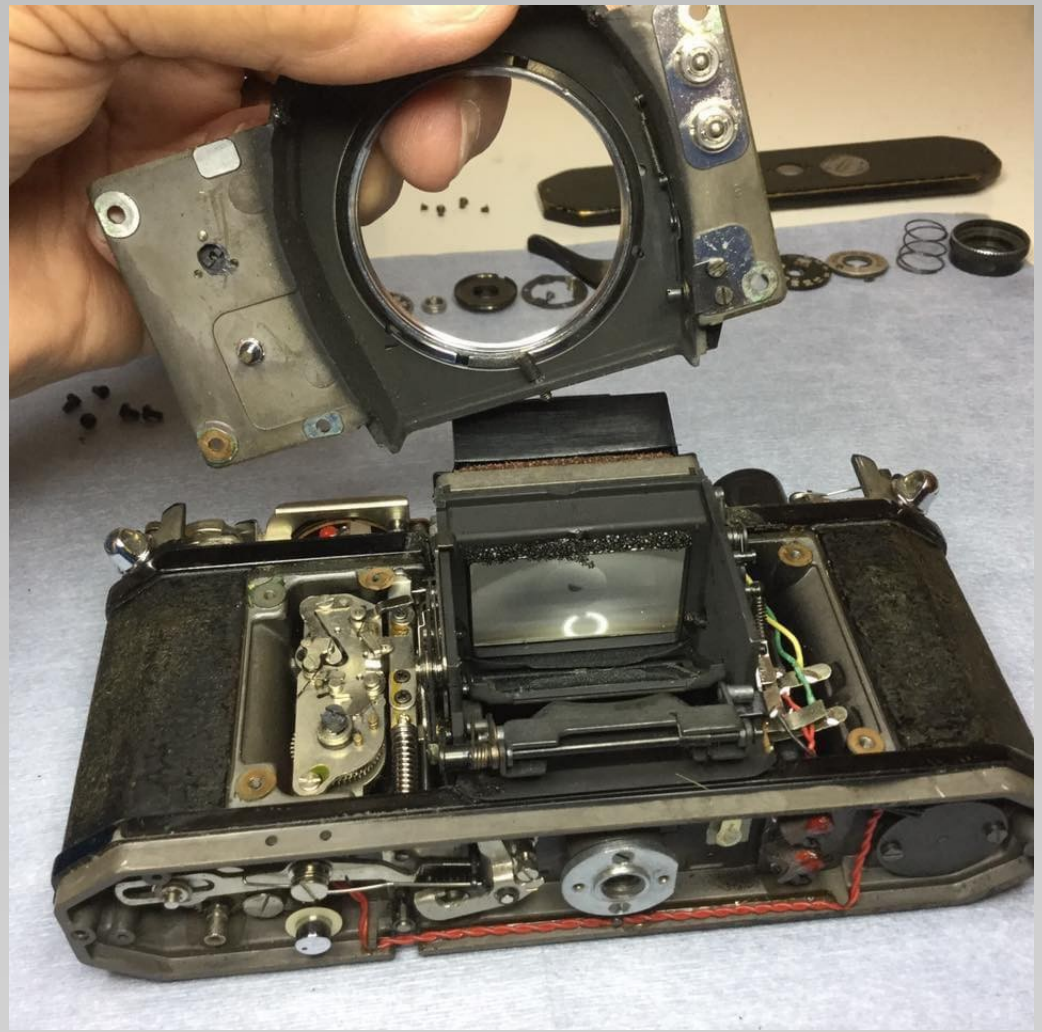
Don't lose this stuff, you'll be sorry later - set the front plate aside in a safe place.

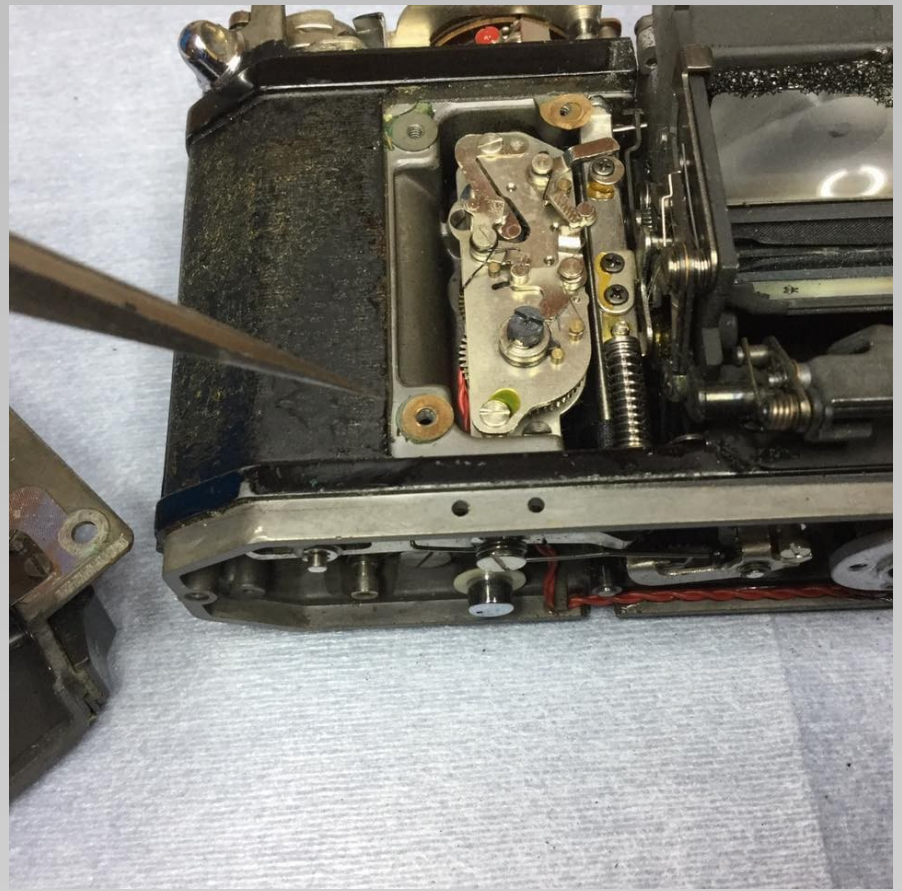


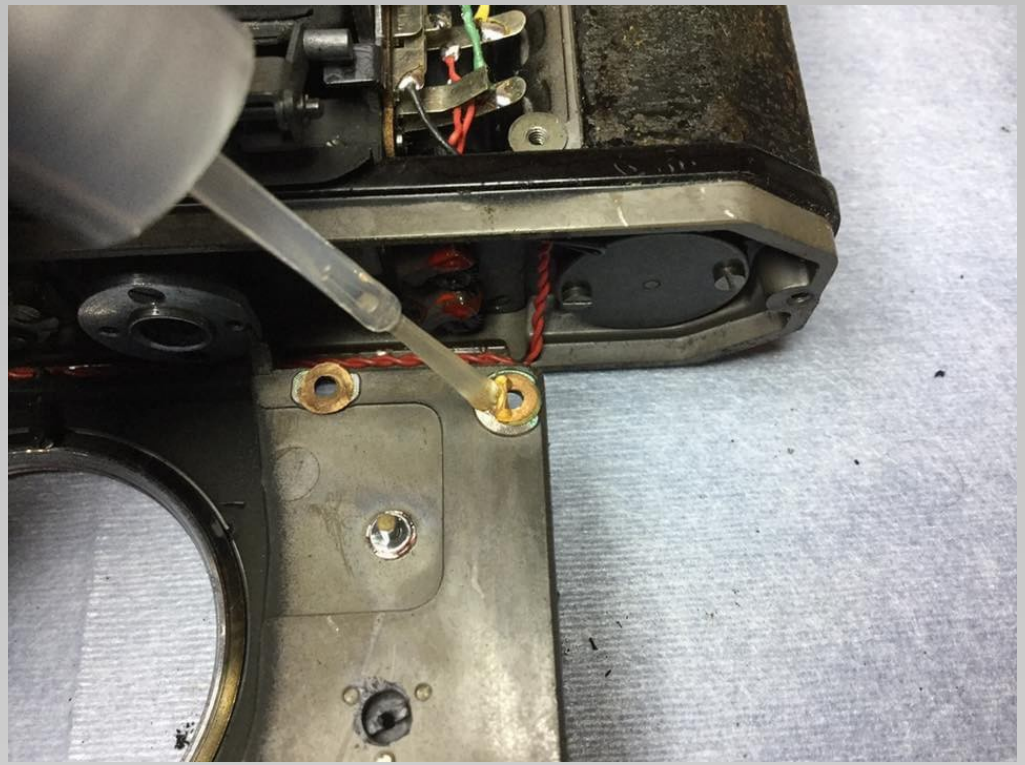


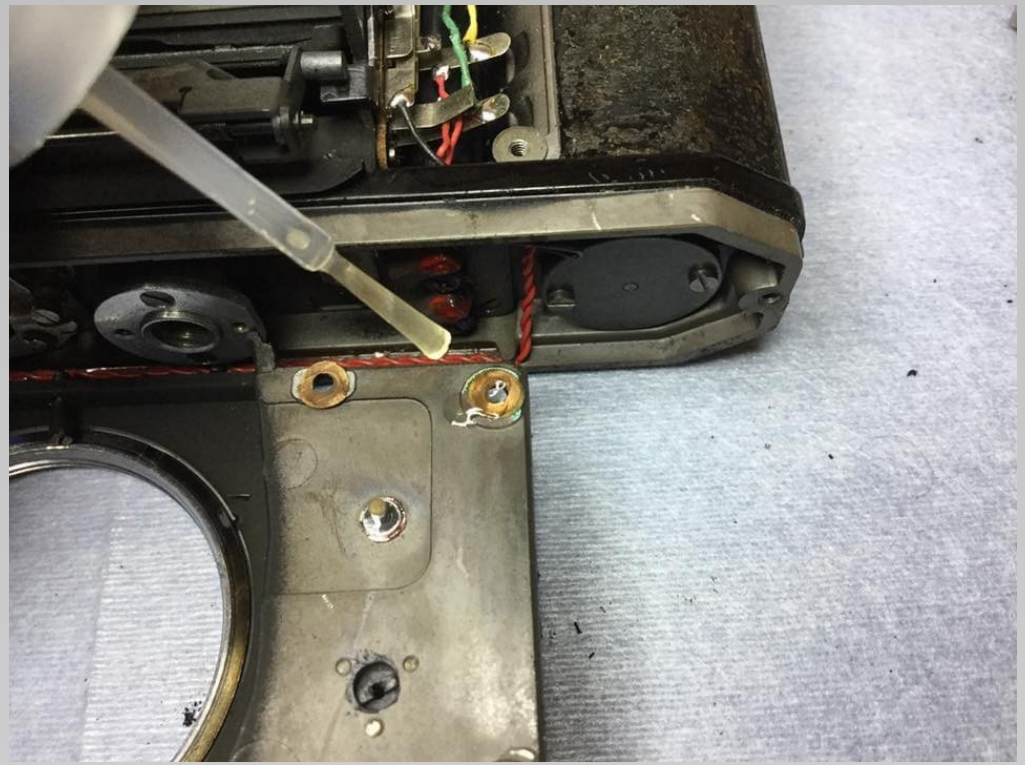


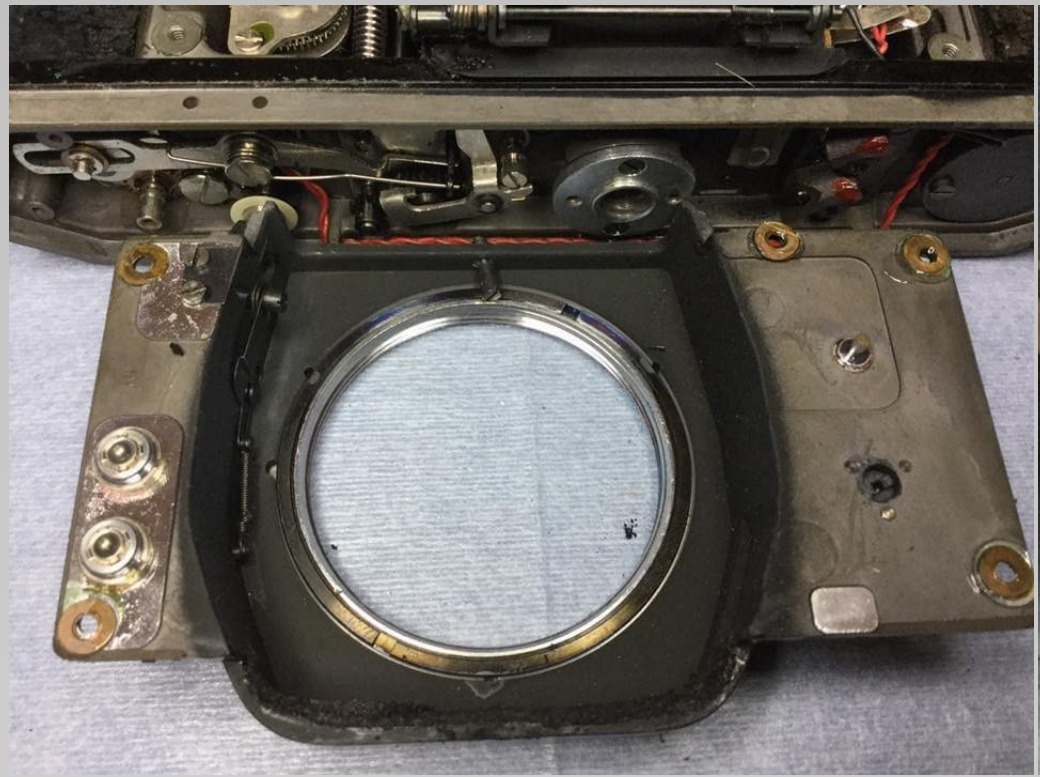


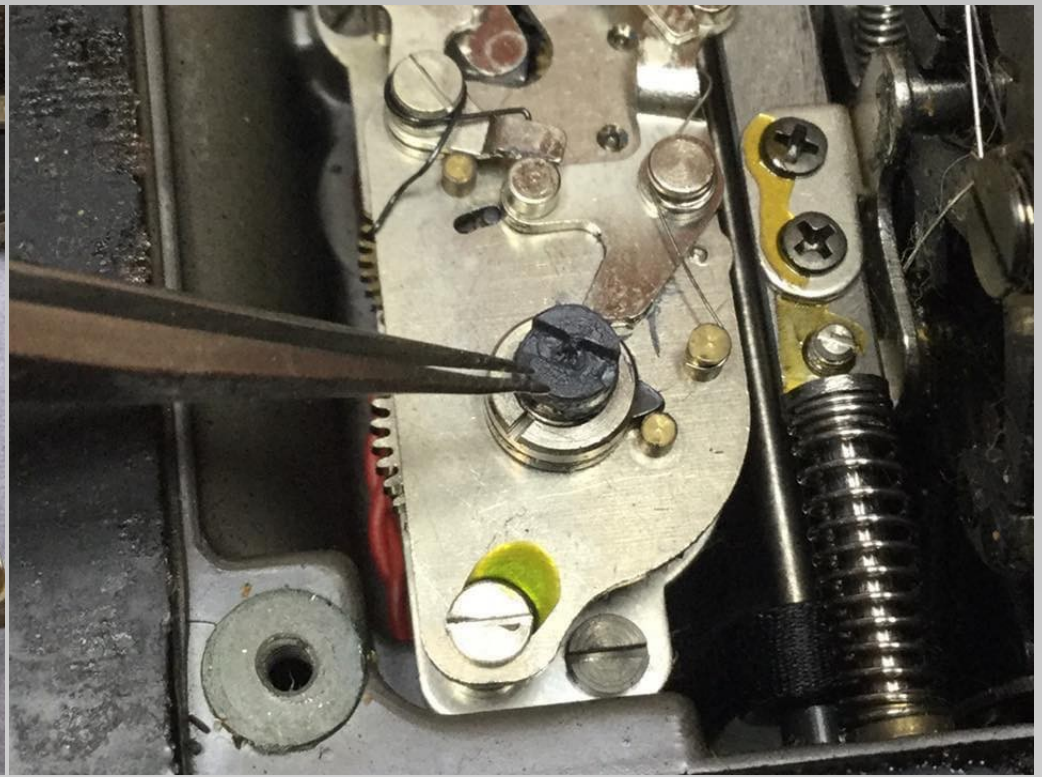


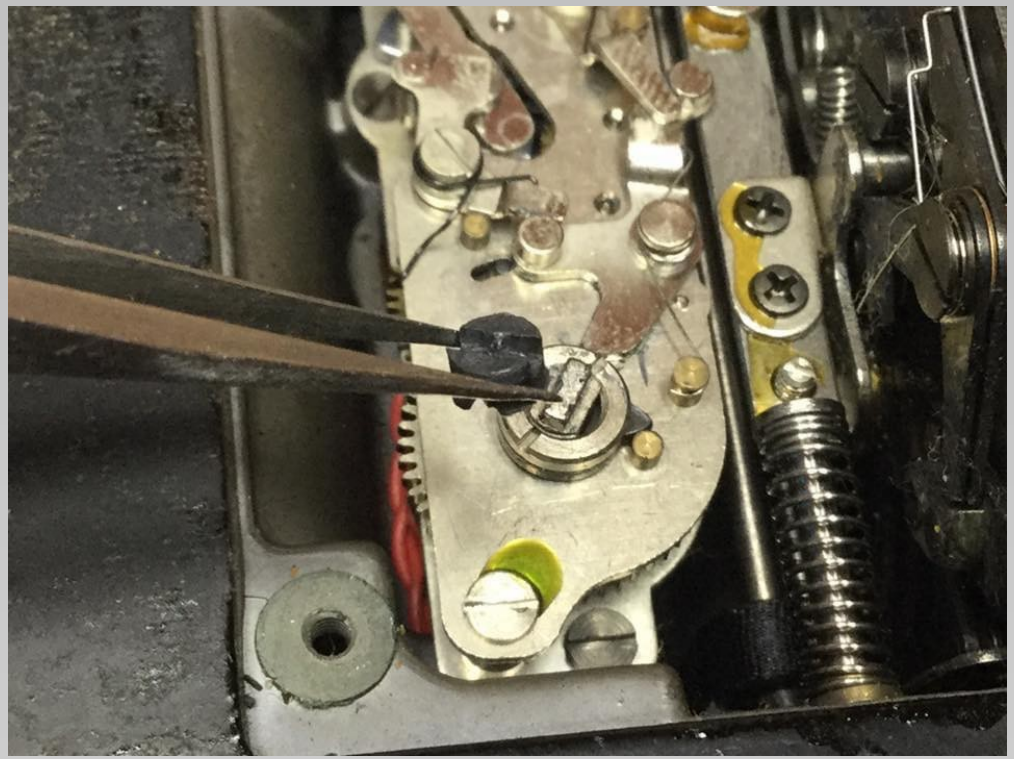


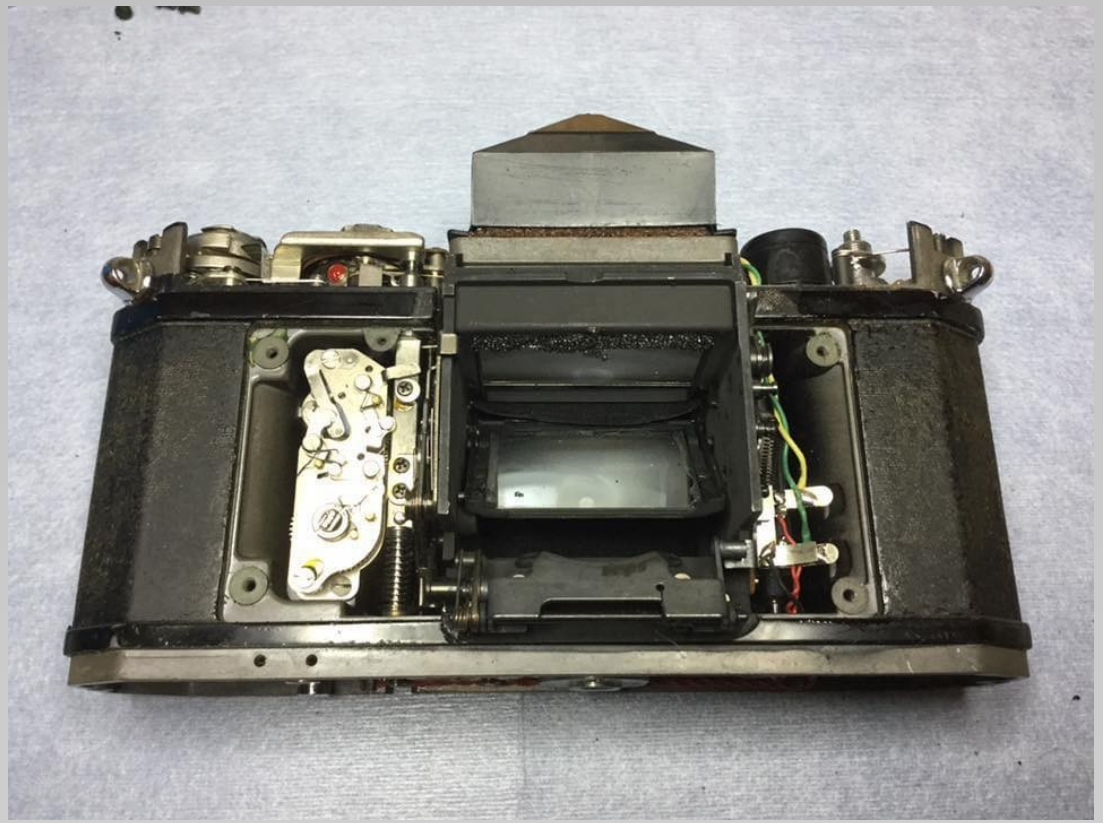










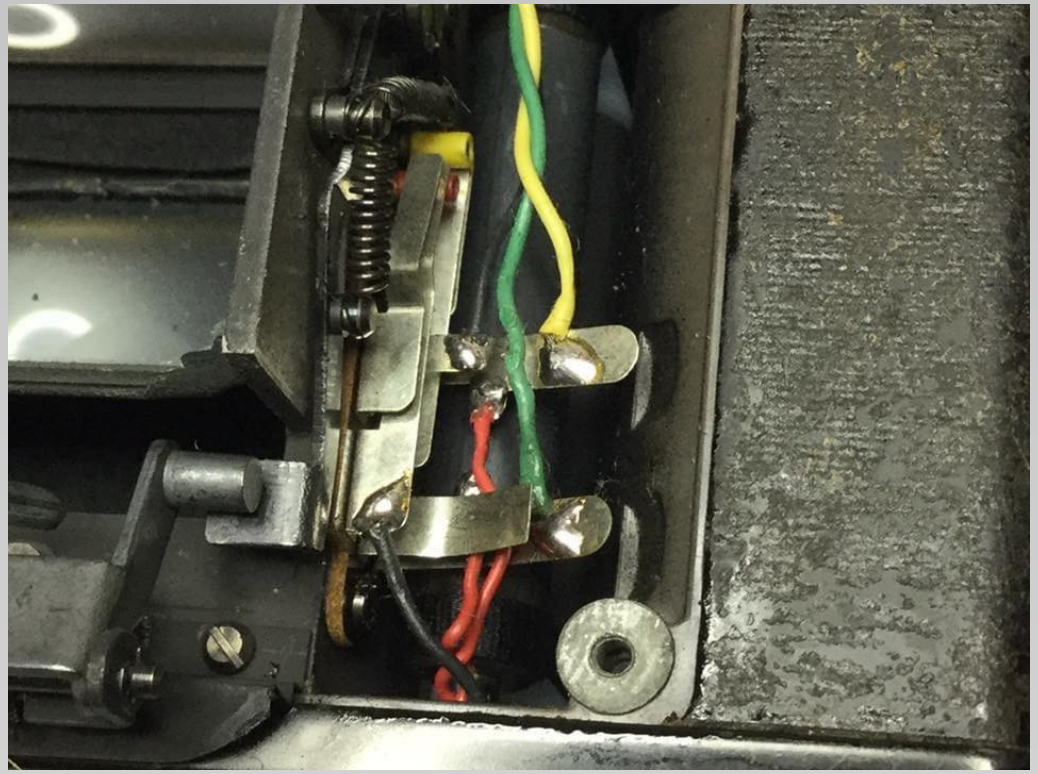


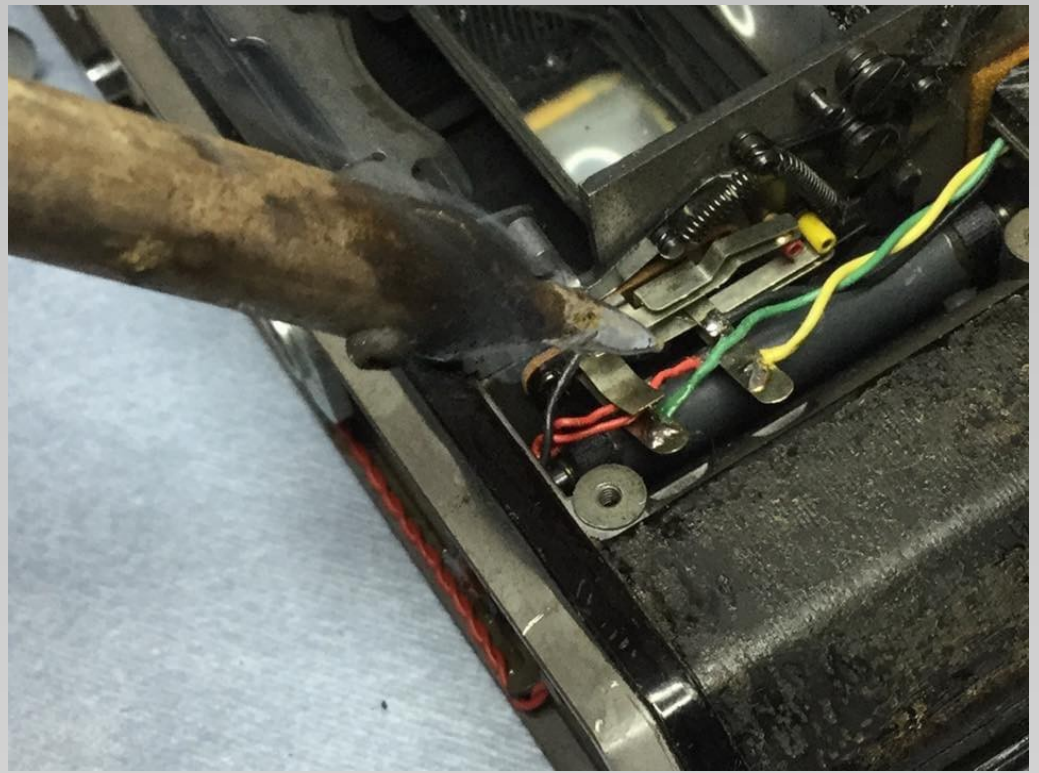
CLA Post #9

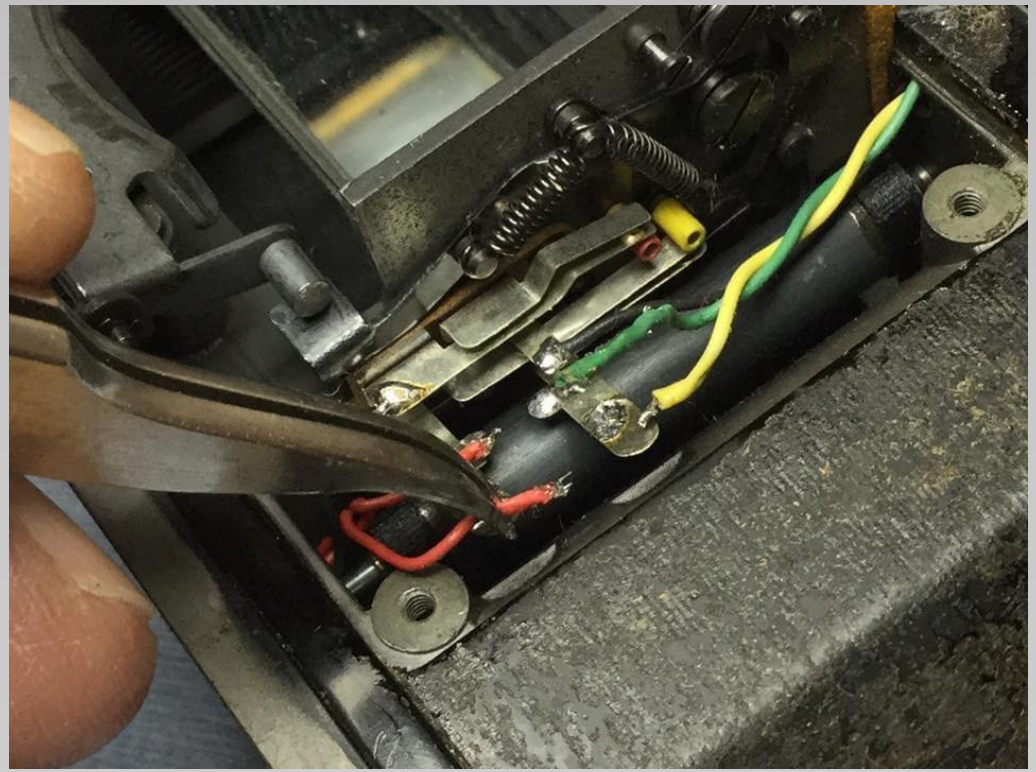
https://www.facebook.com/groups/360490091319202/?post_id=585253788842830

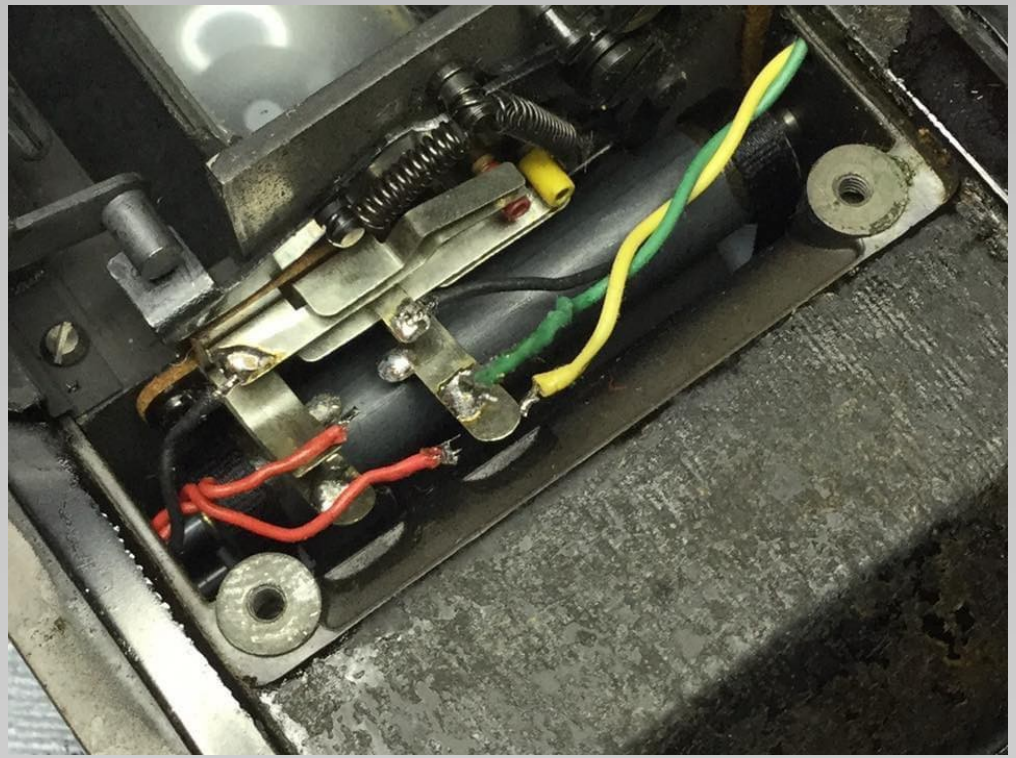
Make careful notes of all the wires (take photos and check them later to make sure you know where every wire goes).

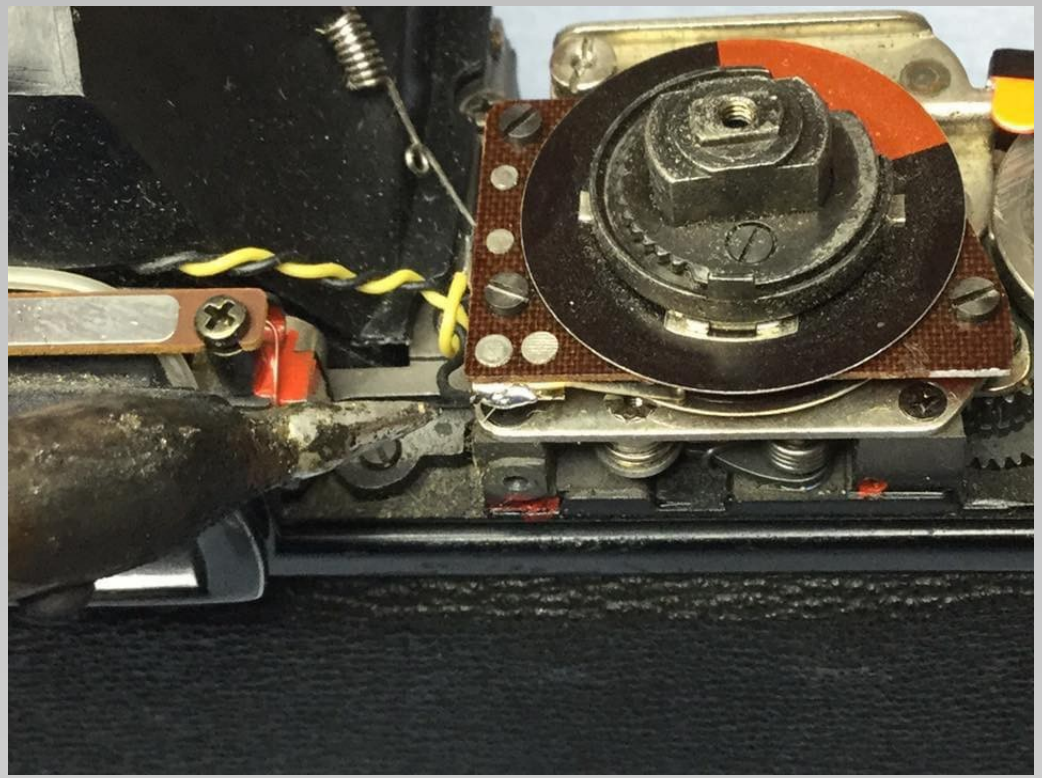
Unsolder the wires in the photos - I'm going to remove the prism and metering assembly complete with the circuit board and the mirror unit.

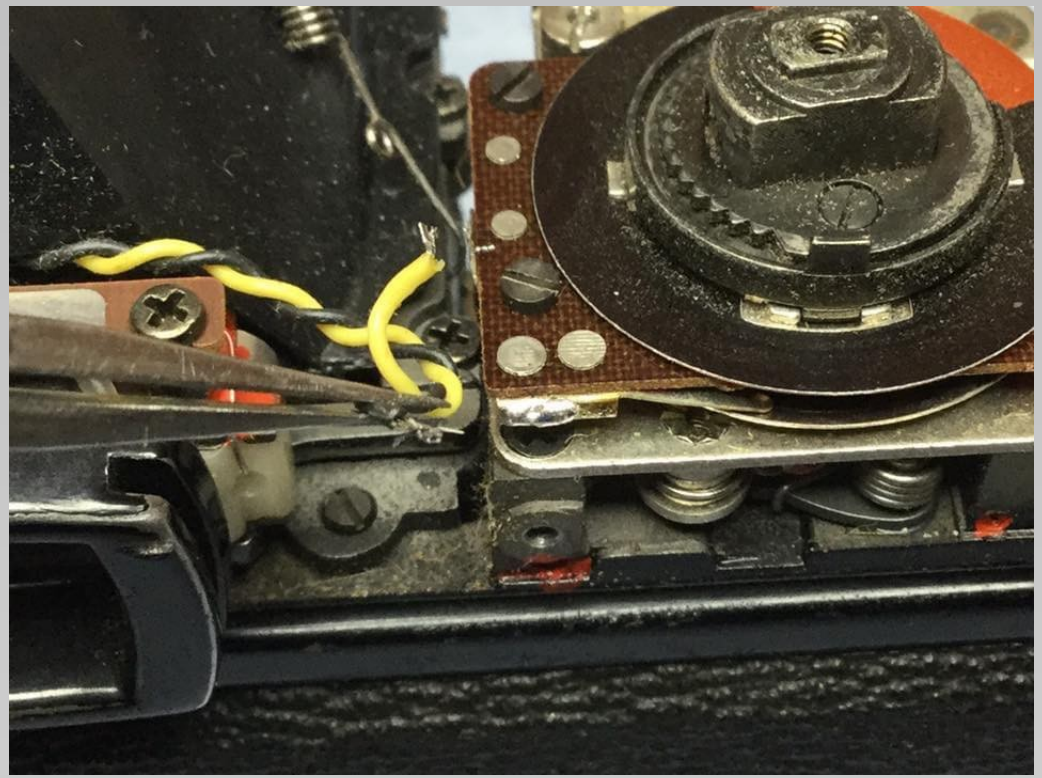


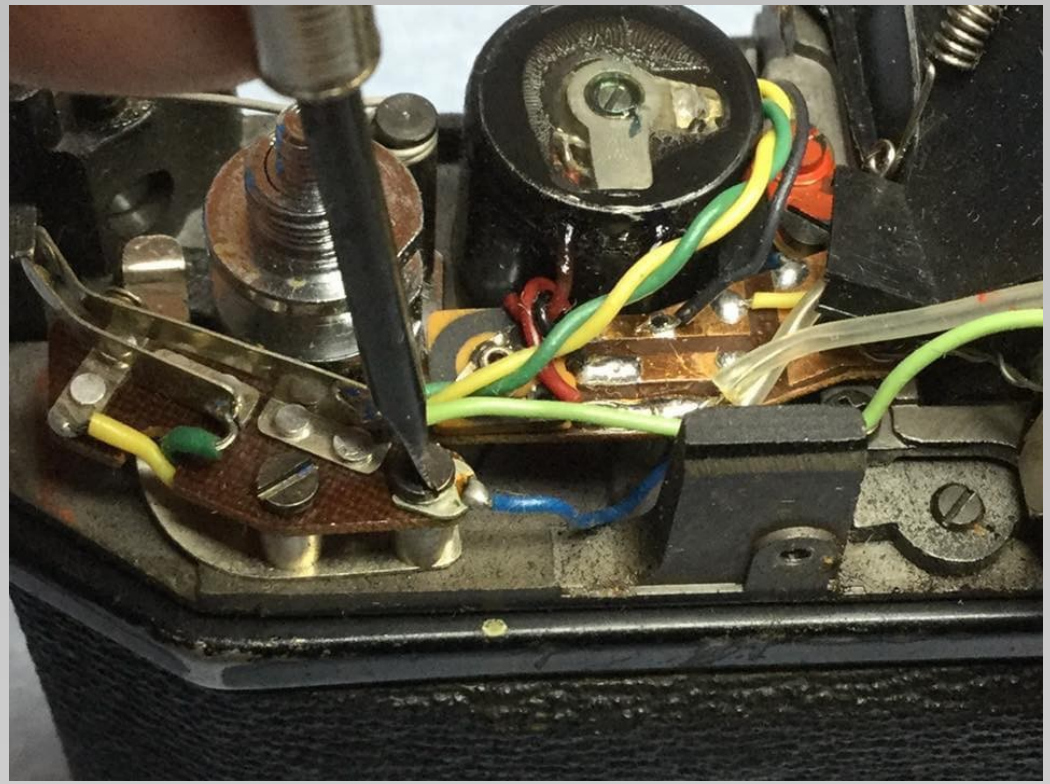


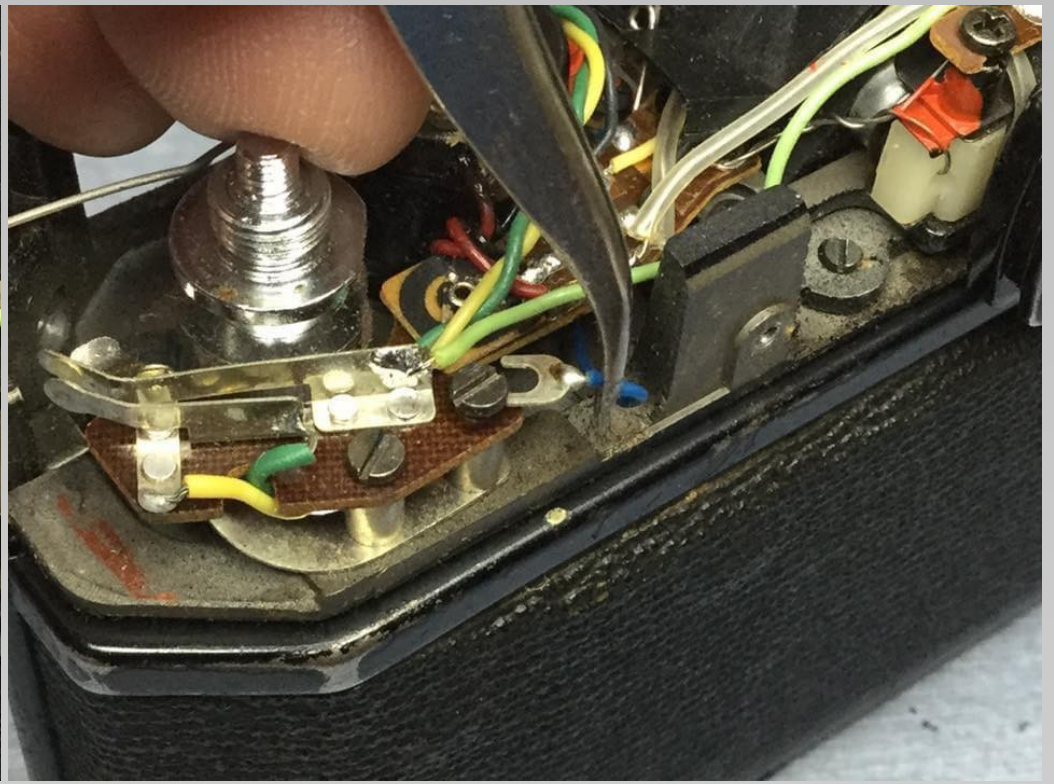


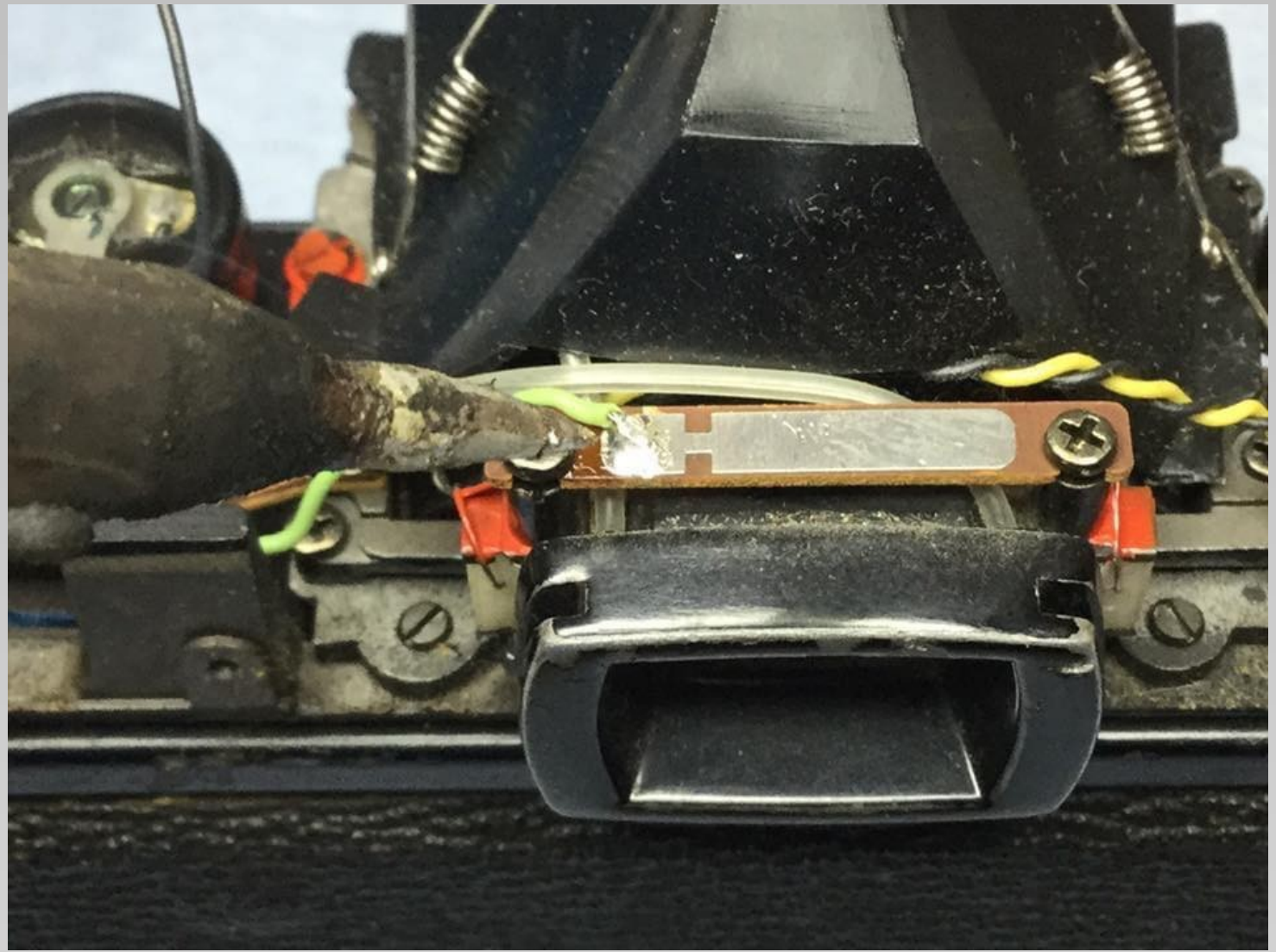










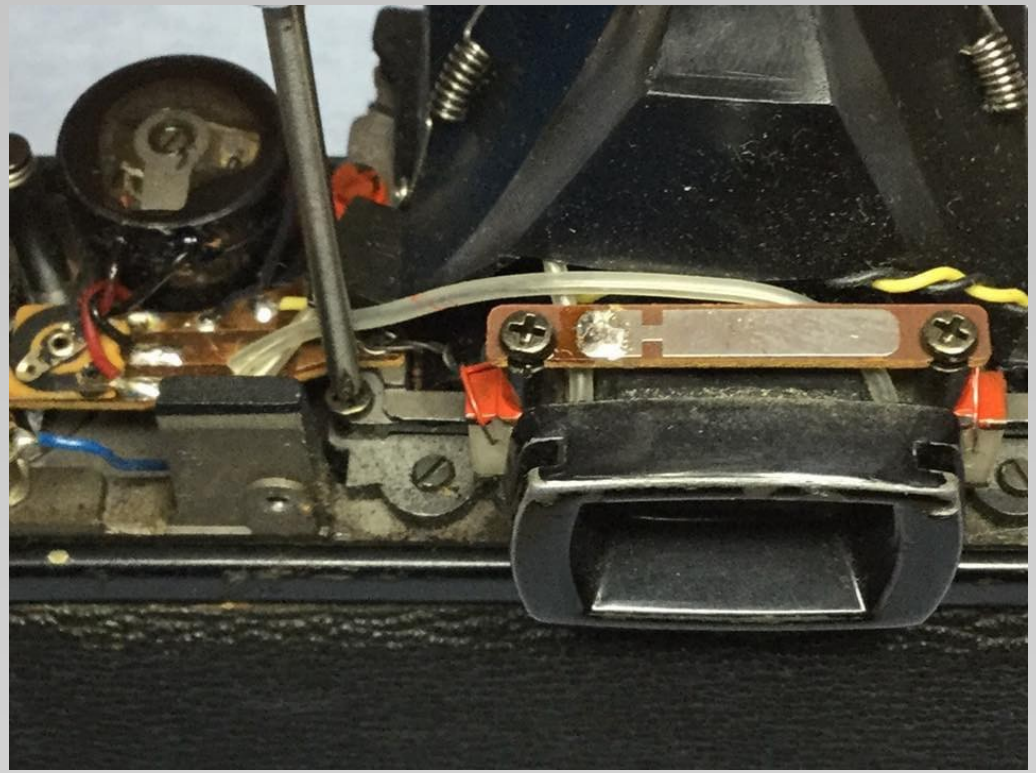


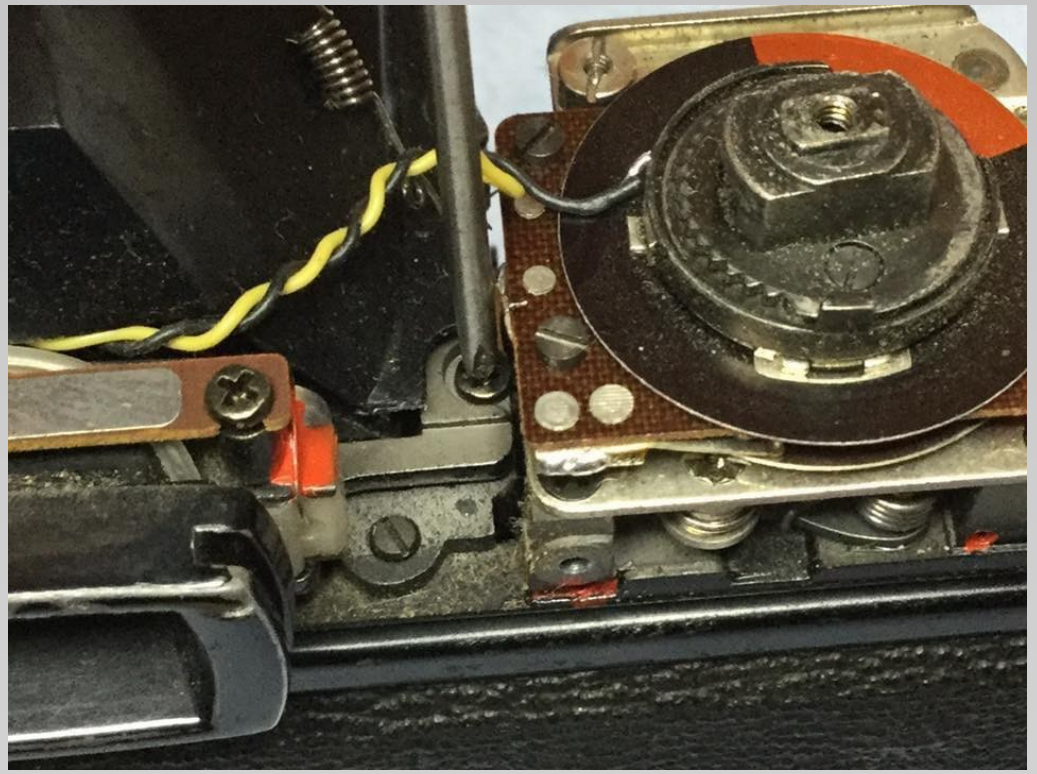
CLA Post #10

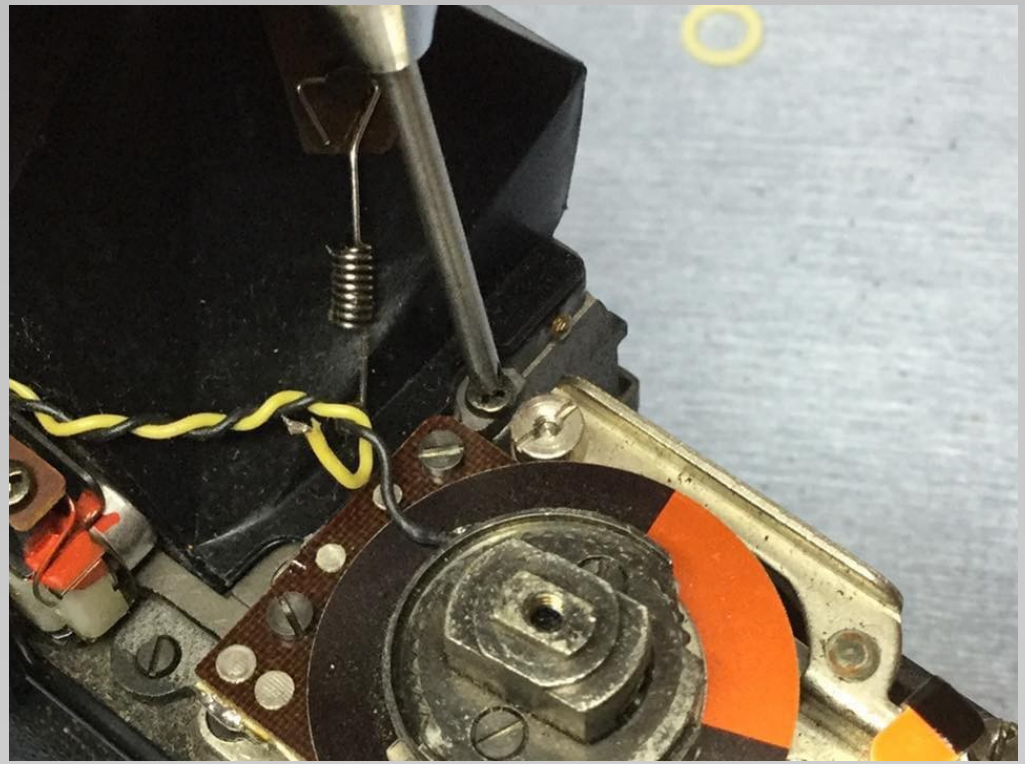
https://www.facebook.com/groups/360490091319202/?post_id=585255632175979

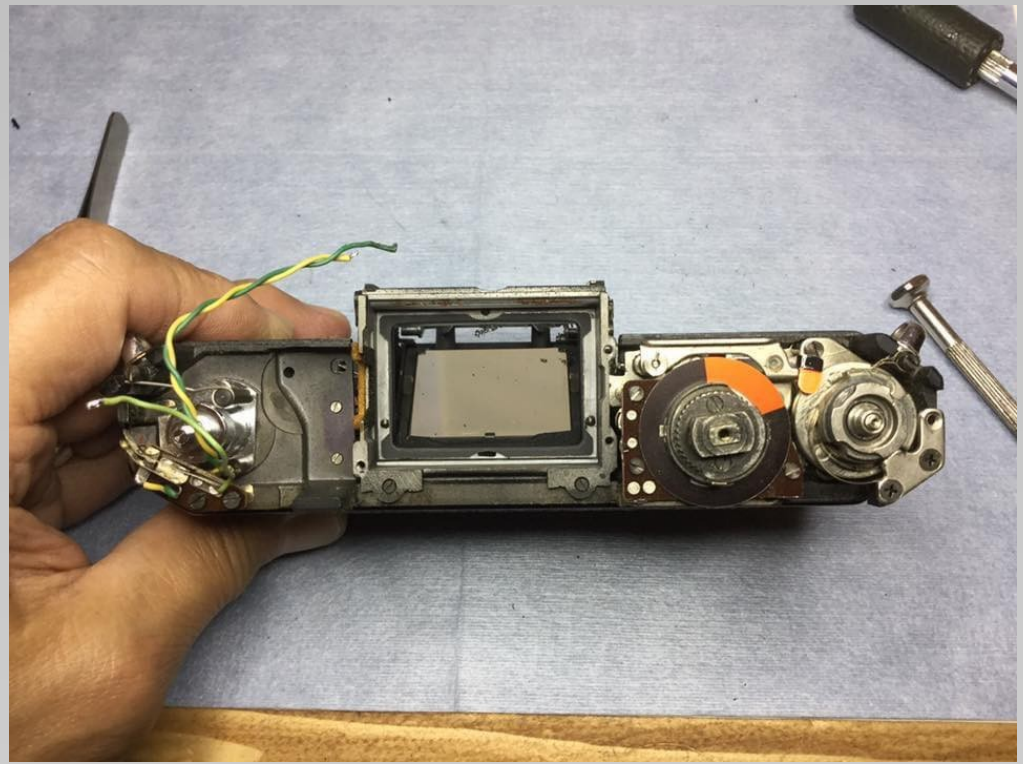
Three screws hold the prism and metering assembly, remove them and carefully lift off the prism assembly, set it aside in a safe place, do not damage the focusing screen!

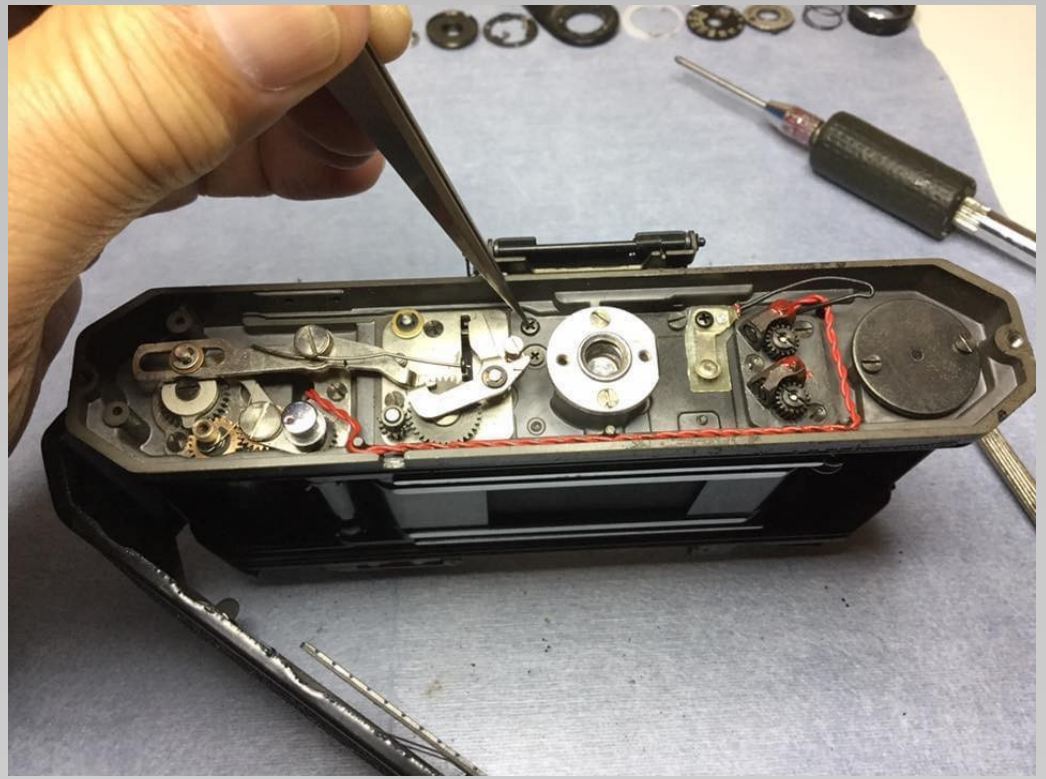
Remove the two screws at the bottom holding the mirror unit in place (yes the screw on the right is slotted while the other is a cross point, that's normal from the factory), lift it out carefully (the release slide on the left may catch).

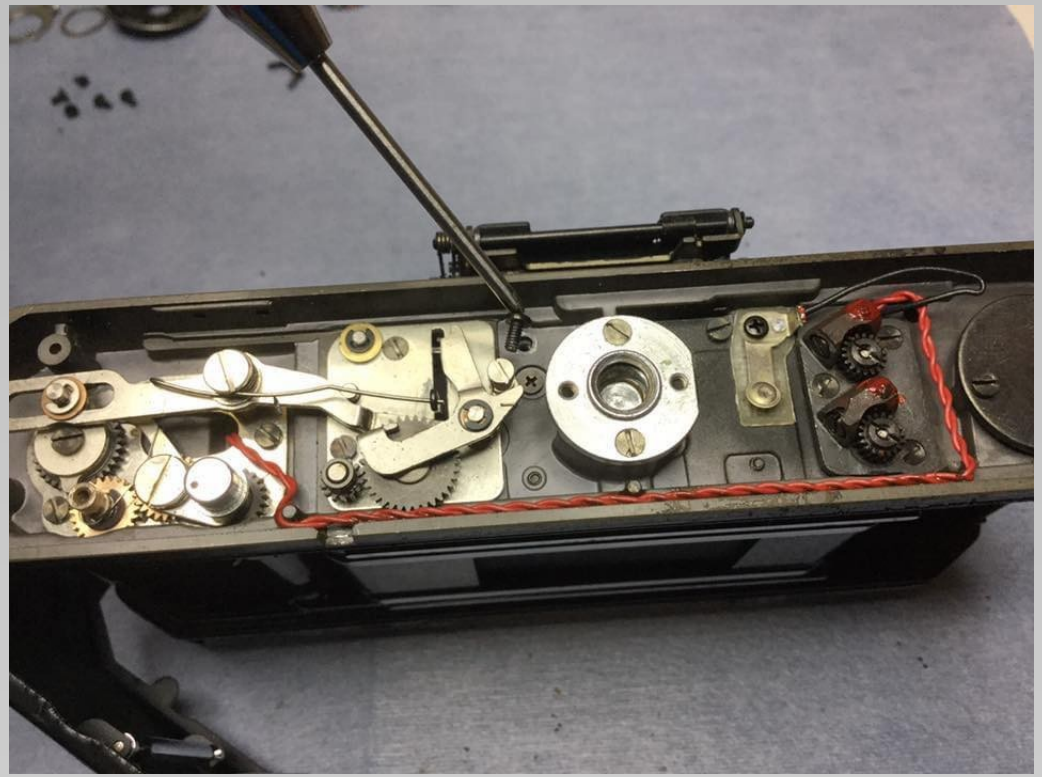


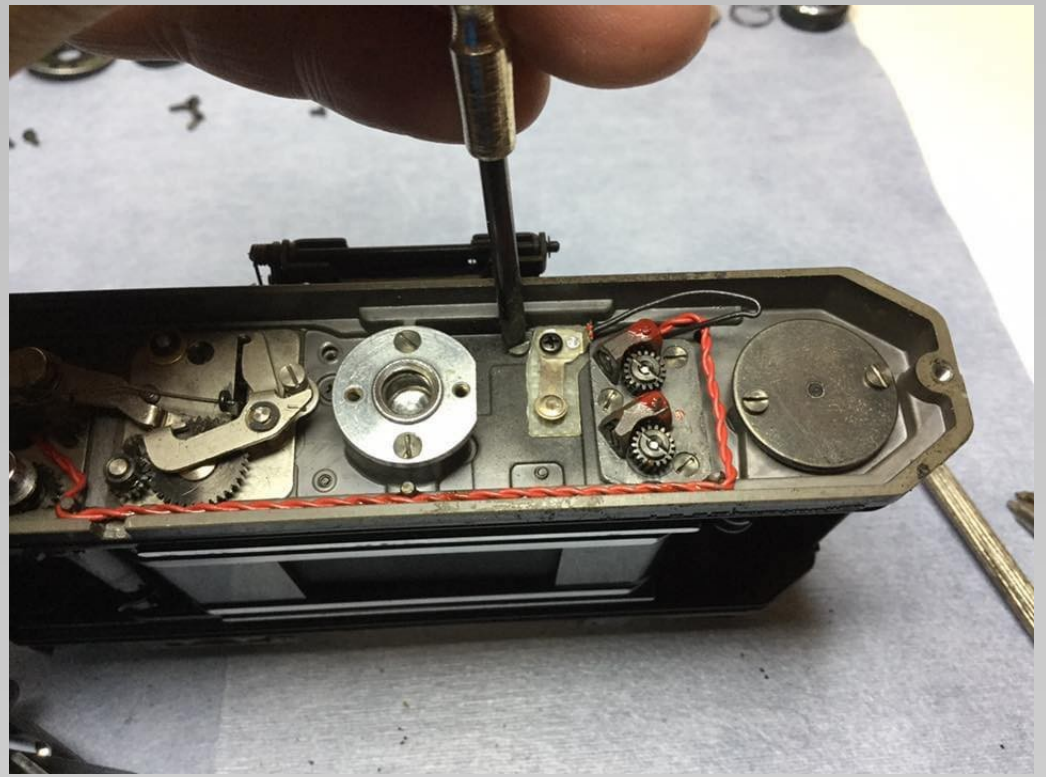


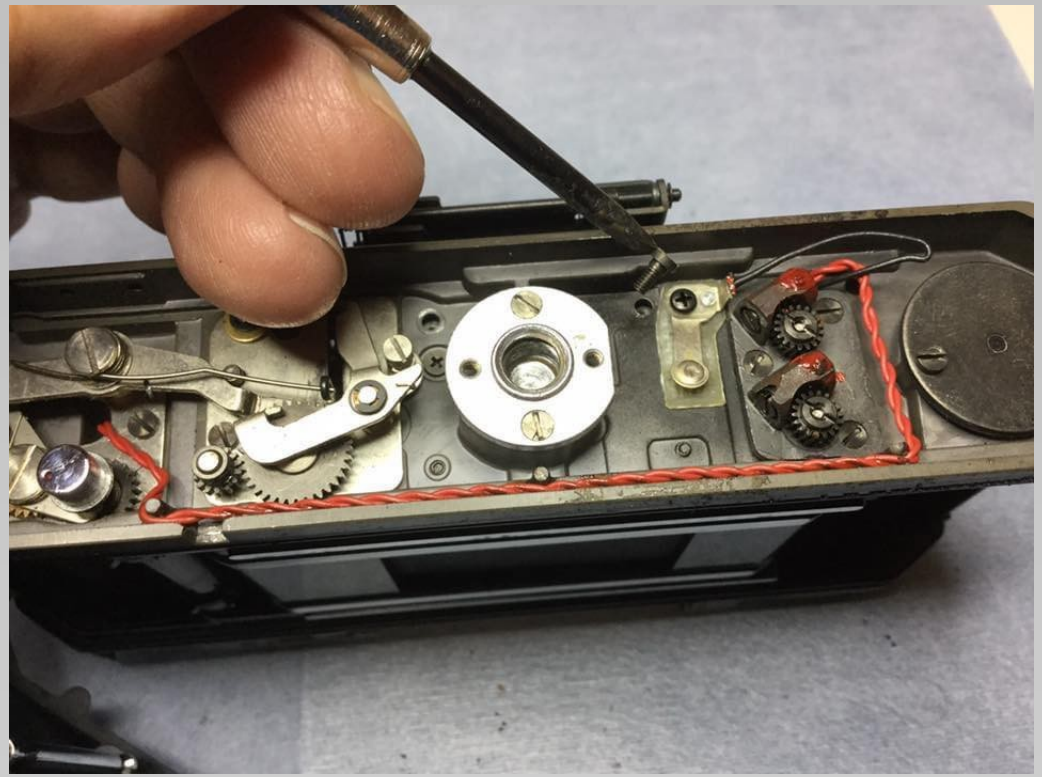


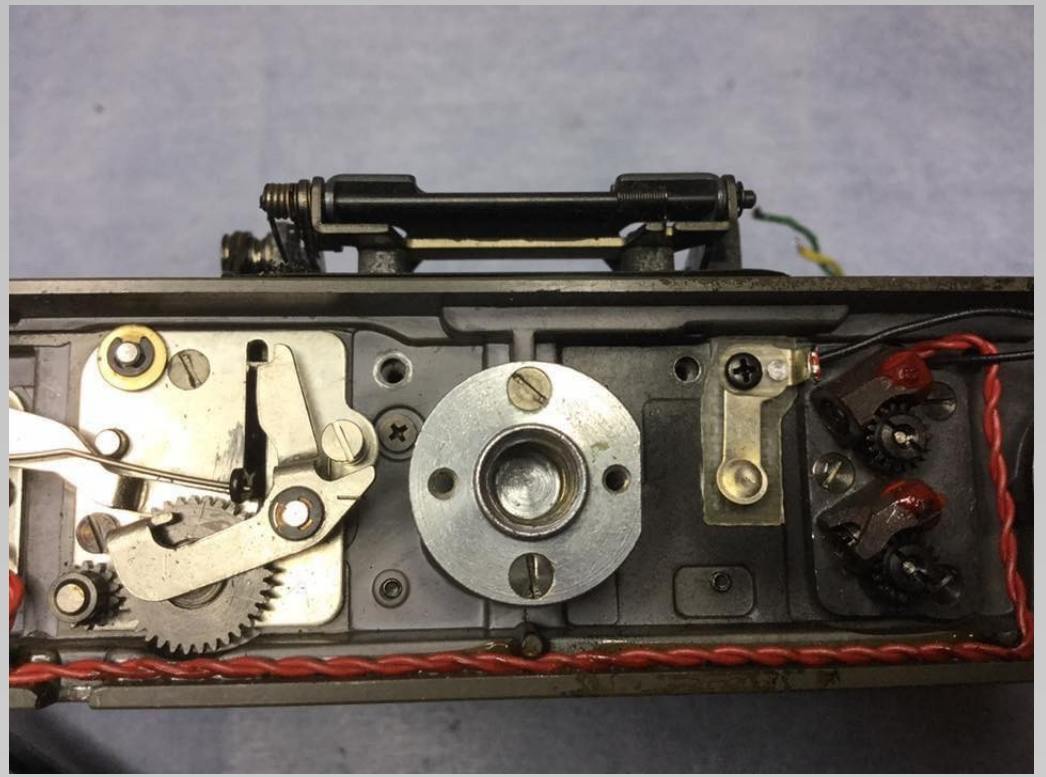


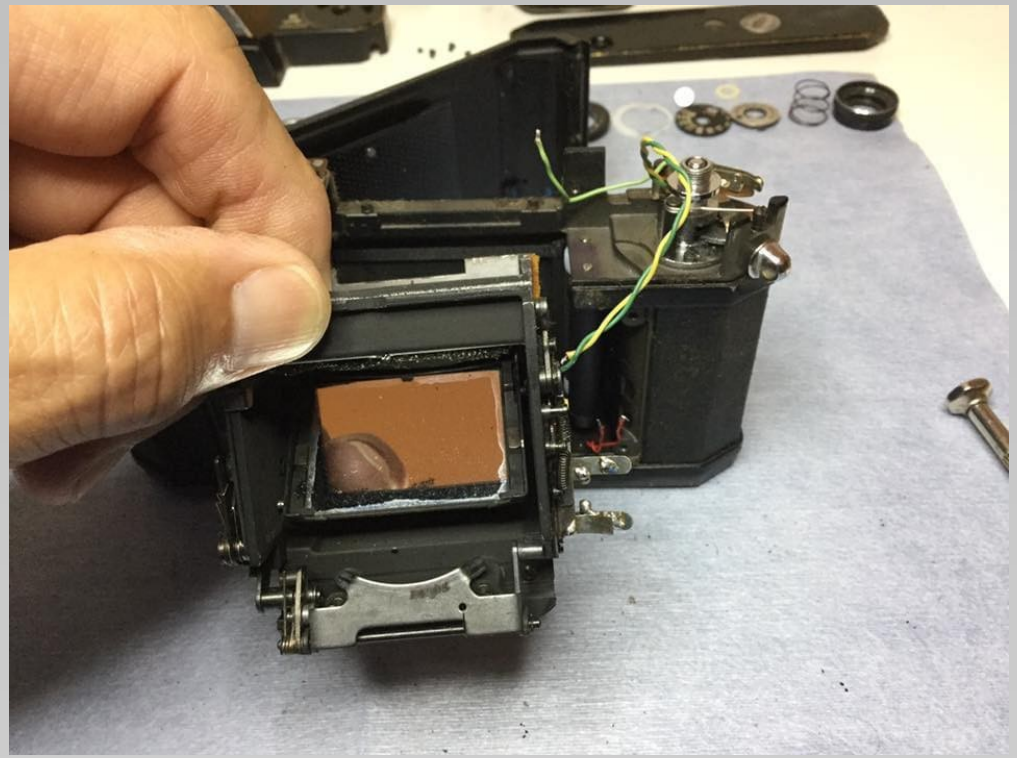


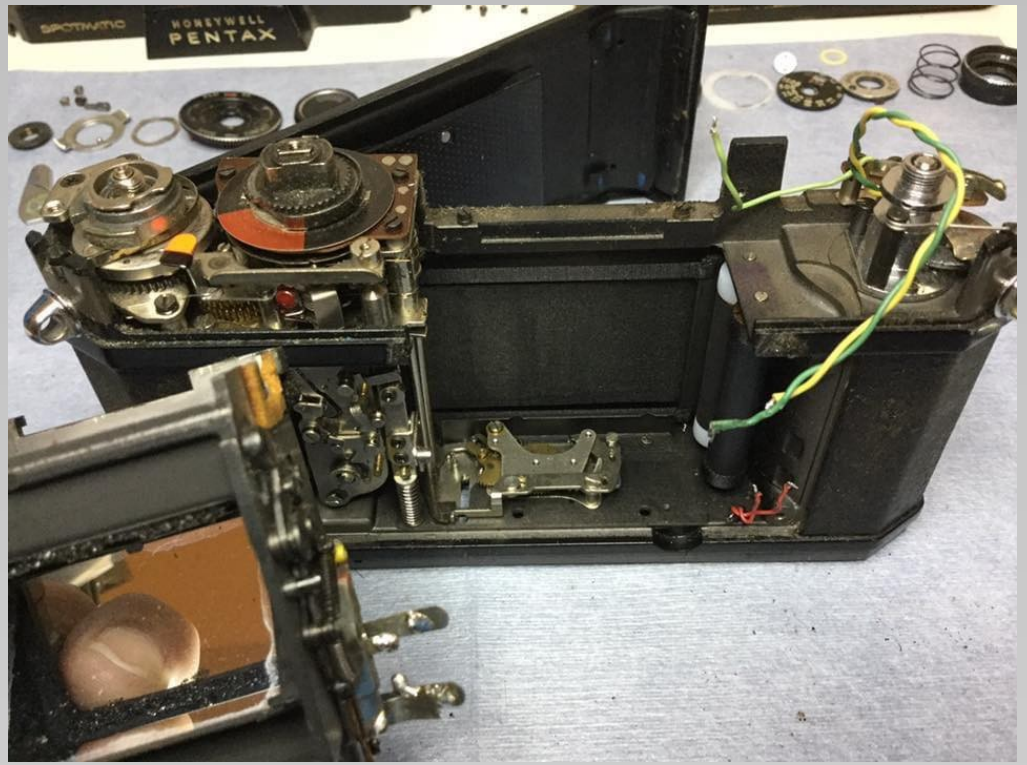


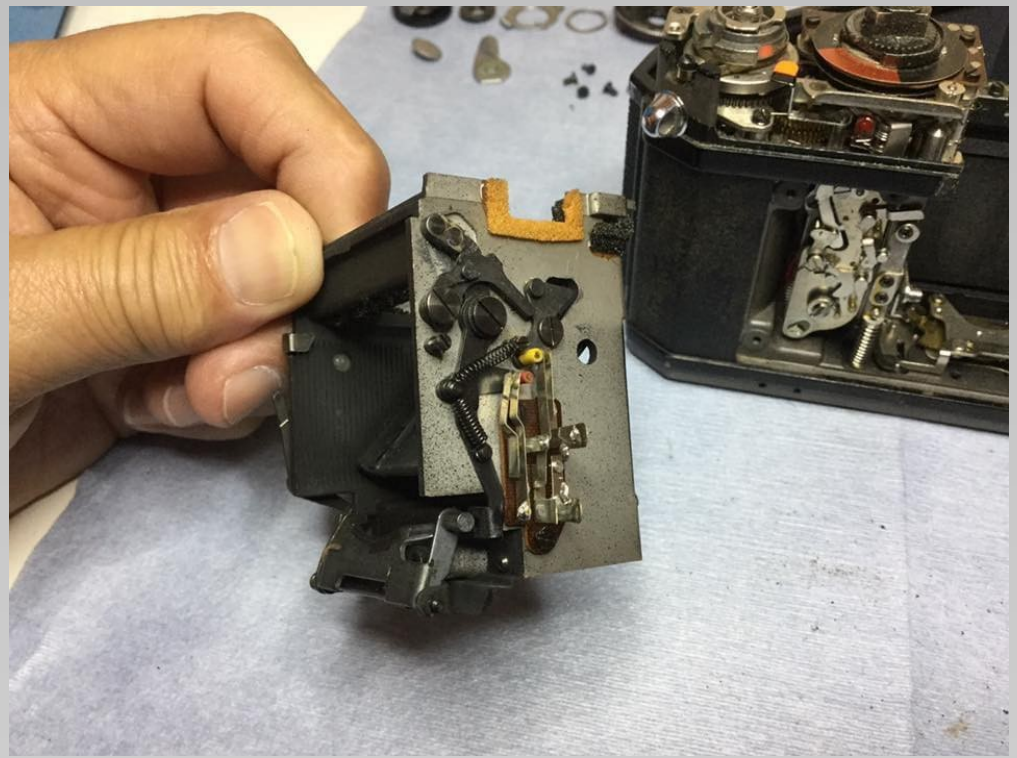


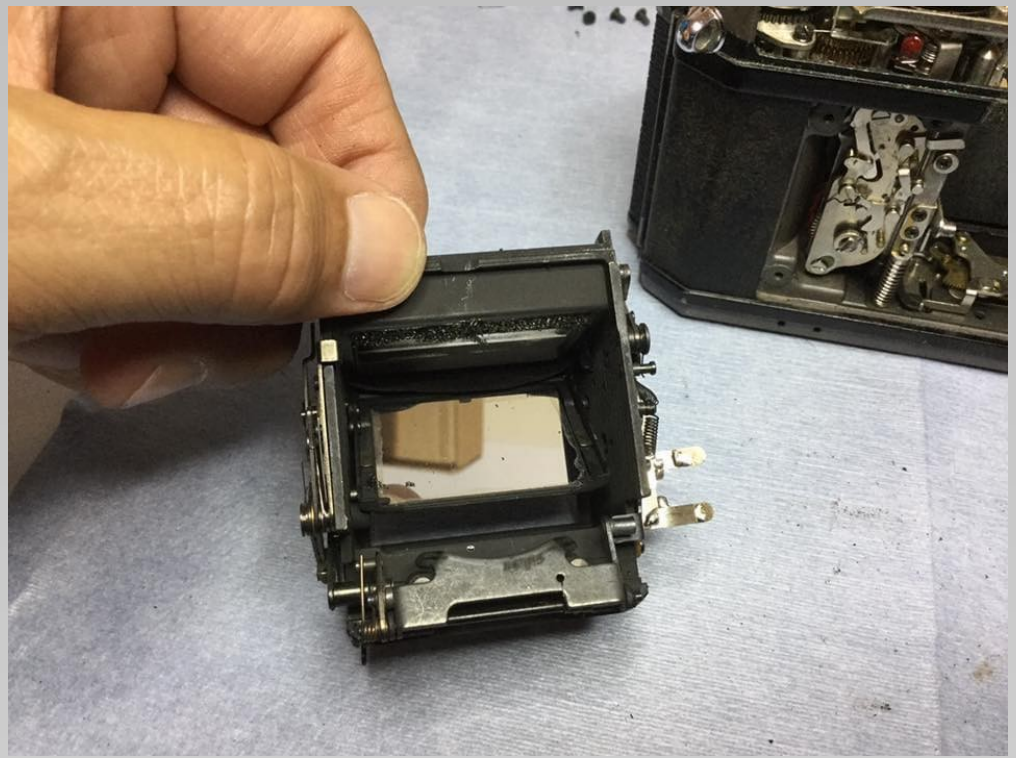


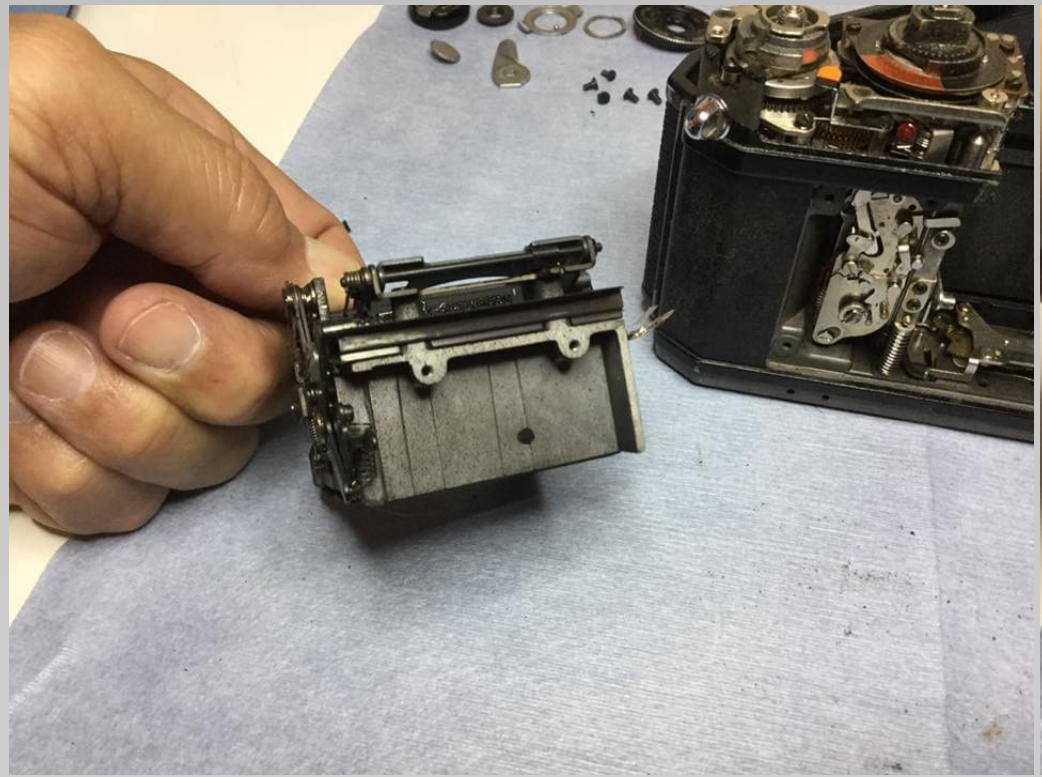


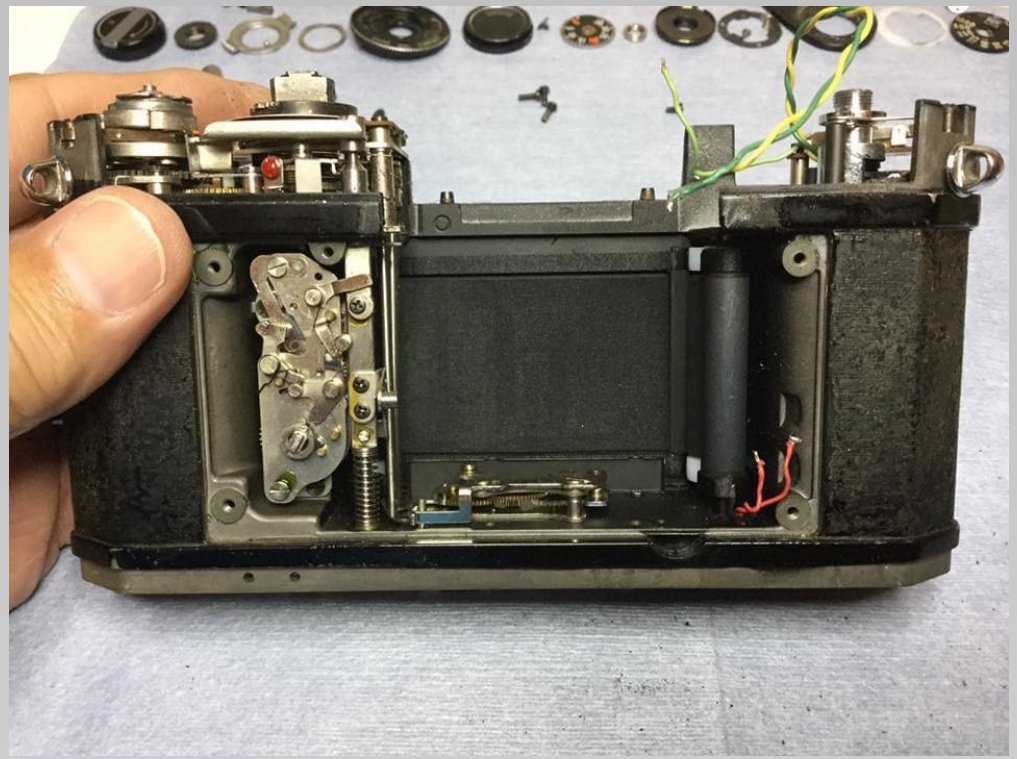


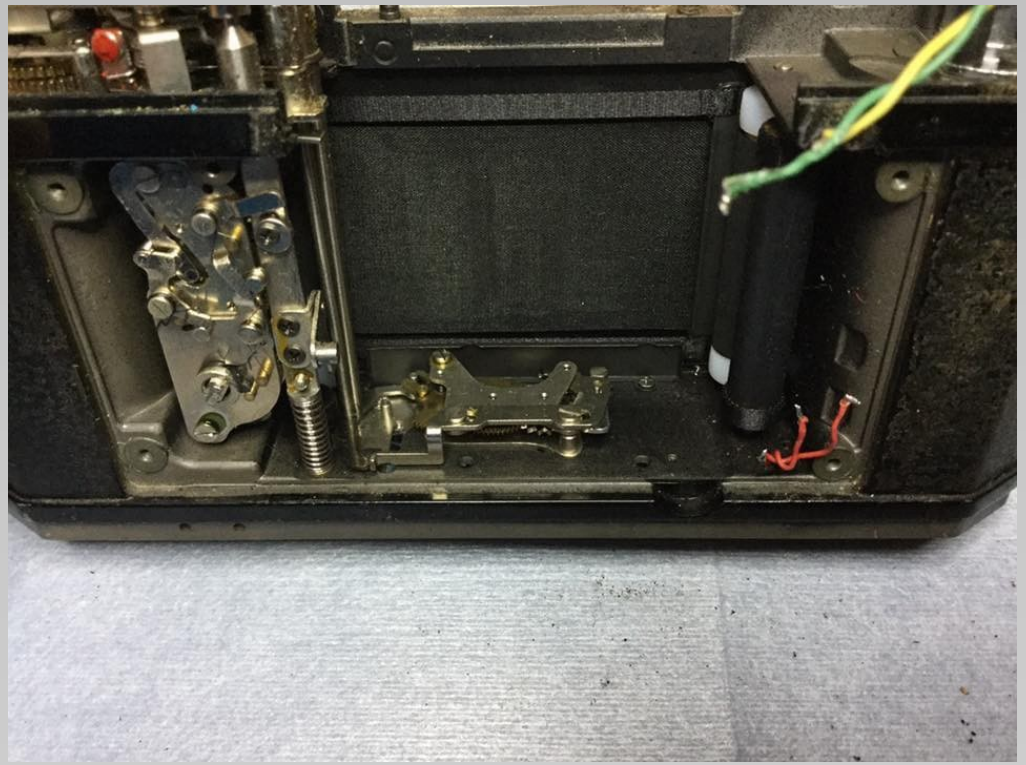

SPOTMATIC
HONEYWELL
PENTAX









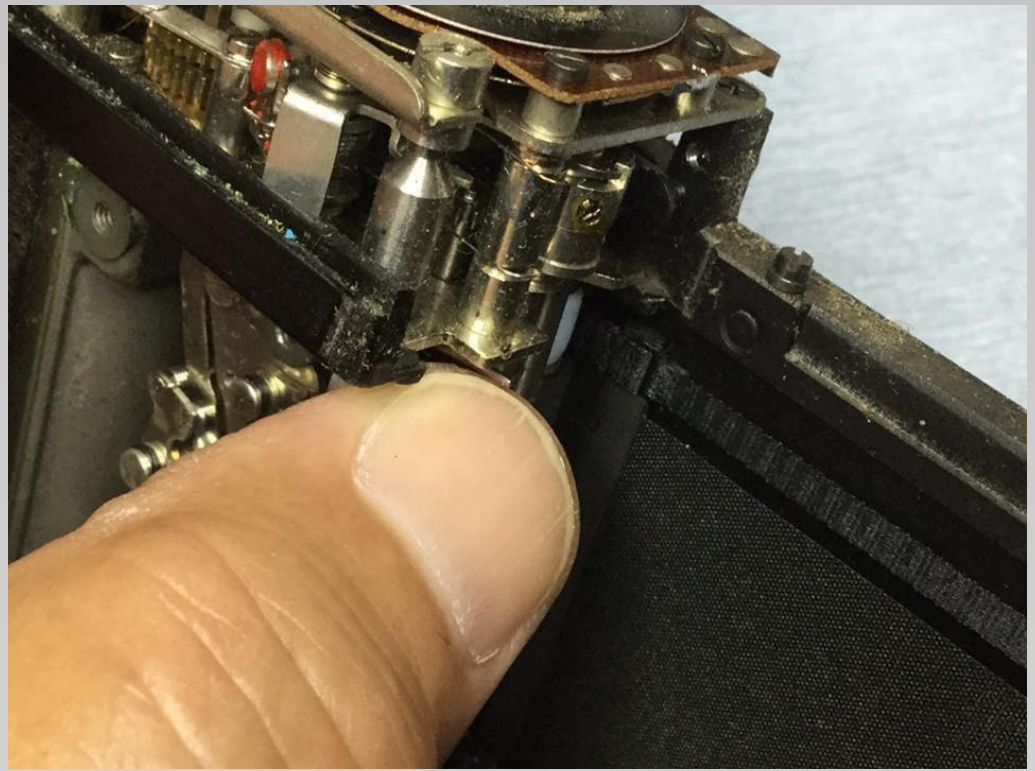


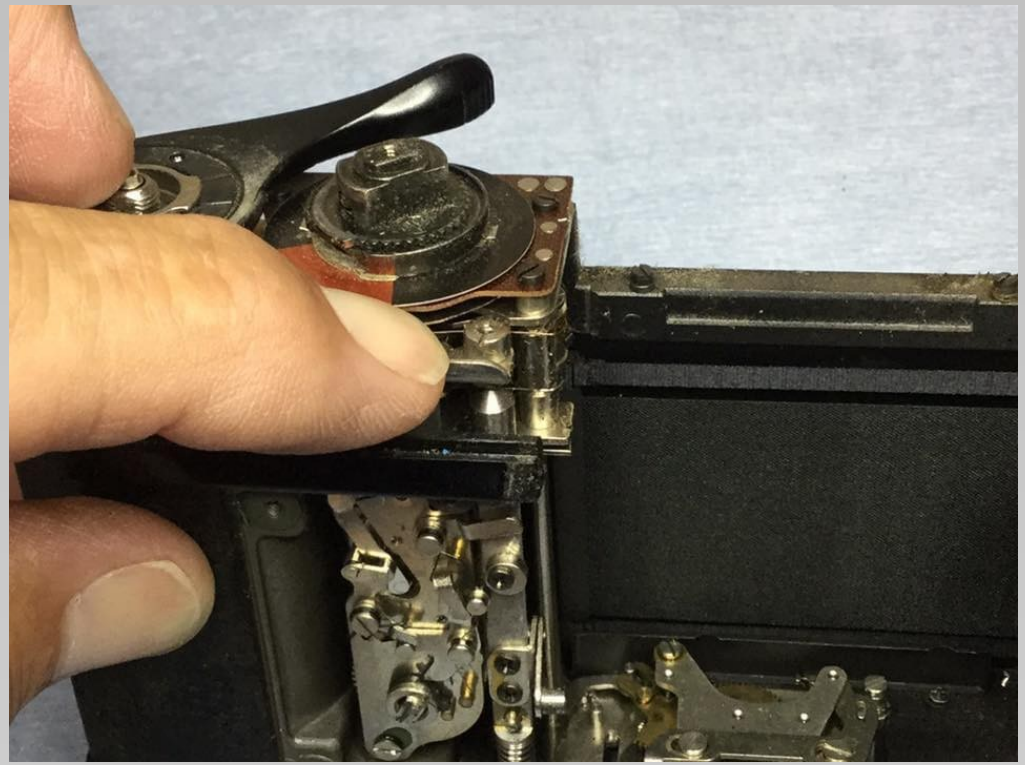
CLA Post #11

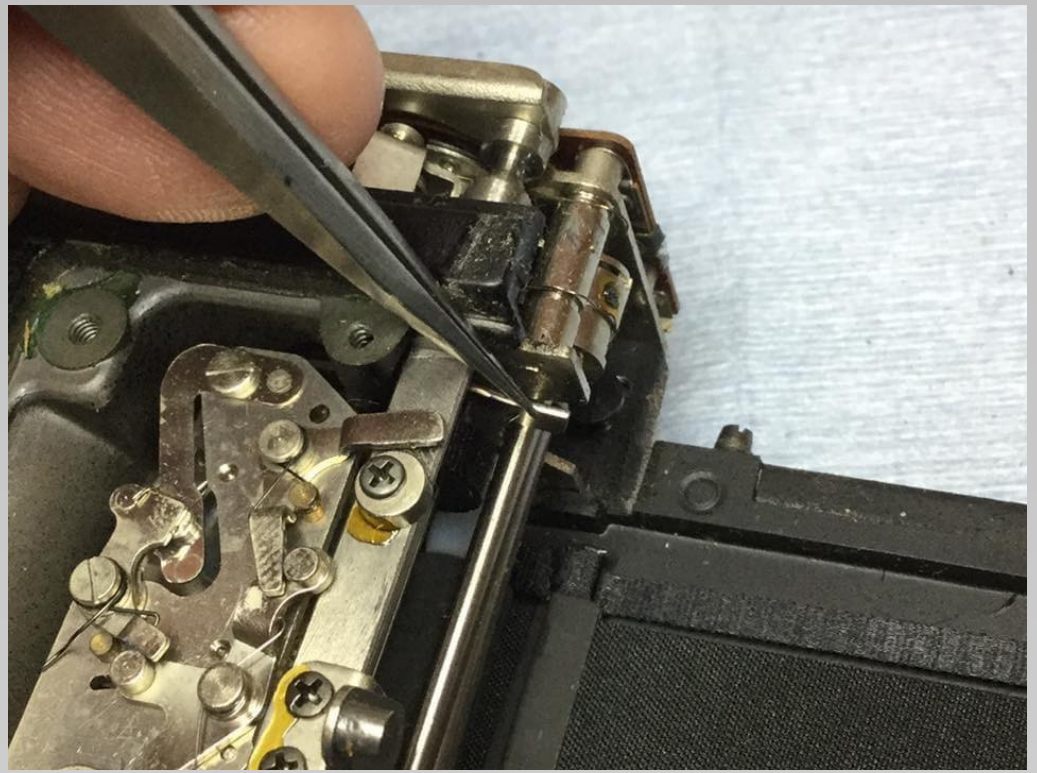
https://www.facebook.com/groups/360490091319202/?post_id=585261068842102

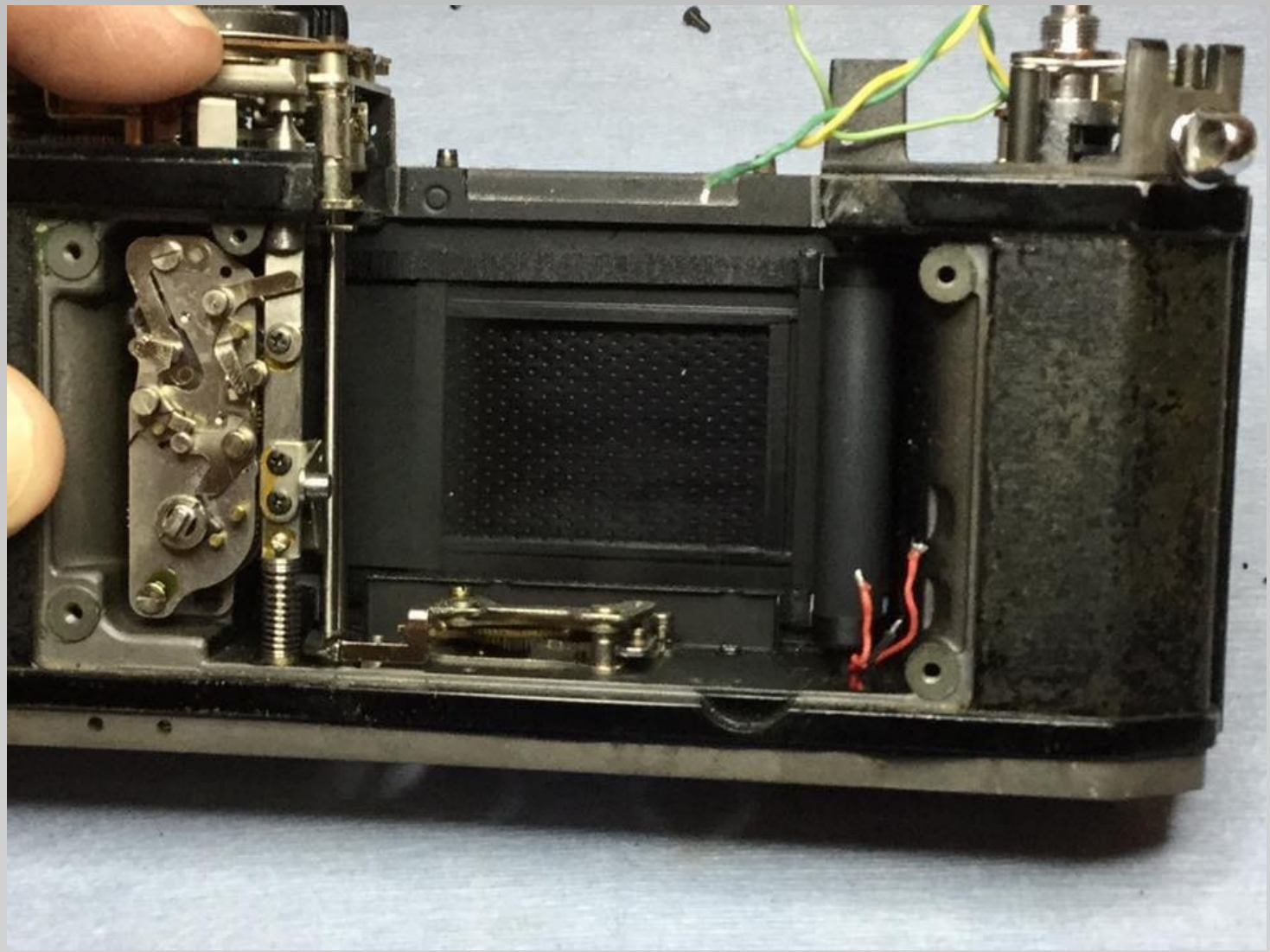
Test the shutter operation...

Re-install the winding lever (one screw will hold it), wind the shutter - press the little lever the mirror unit hits to release the shutter and press the release slide the shutter curtains will travel from the wind side to the release side...









CLA Post #12

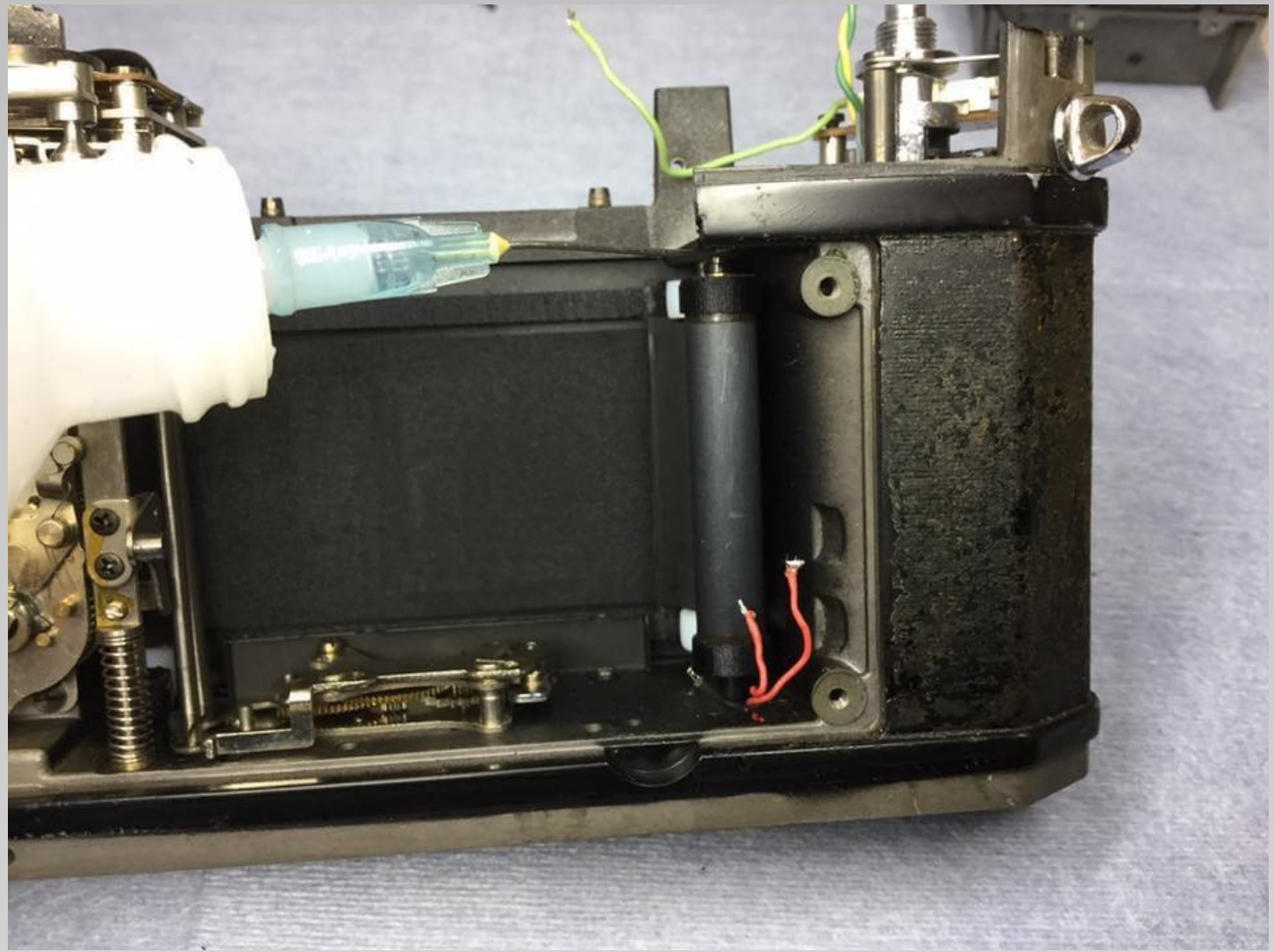
https://www.facebook.com/groups/360490091319202/?post_id=585263702175172

I use a low pressure air compressor to blow out the dust and debris, a q-tip and alcohol to clean stubborn stuff and remove light seal and cushion material along with the glue.

Then I use my oiler to lubricate the shutter bearings, rollers and high speed cams - there are service manuals online for freaking free - get one and follow the lubricating steps.

After lubricating the shutter, I wind and fire the shutter a bunch of times, watching for any problems or erratic behavior checking the slow speed governor along the way.

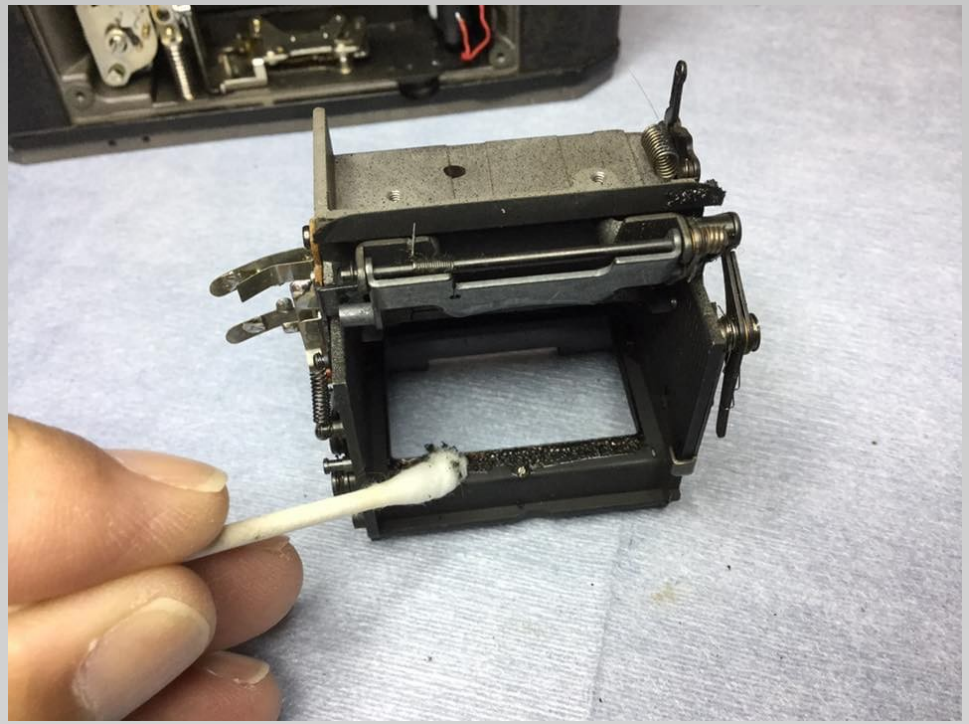
Let the camera set for a while before adjusting the speeds to allow the lubricant to seep into all the little nooks and crannies ... I let it sit overnight - from experience, I've waited a few hours, adjusted the shutter and checked it the next day and it changed slightly, so... I wait and adjust it the next day... usually it's perfect later upon double checking.

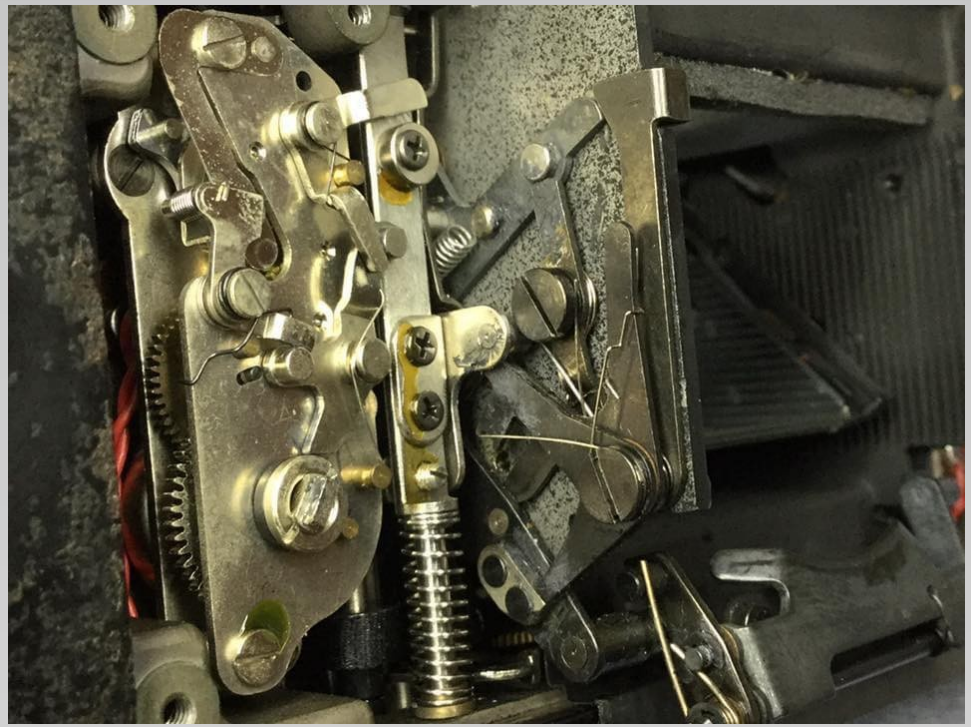


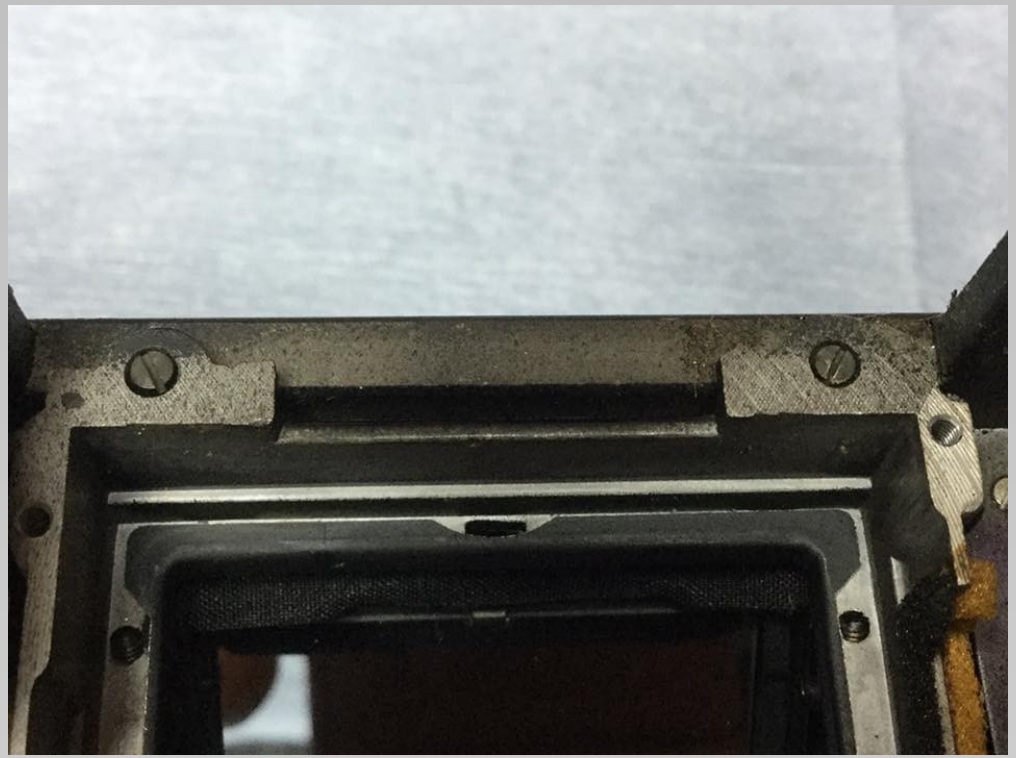
CLA Post #13

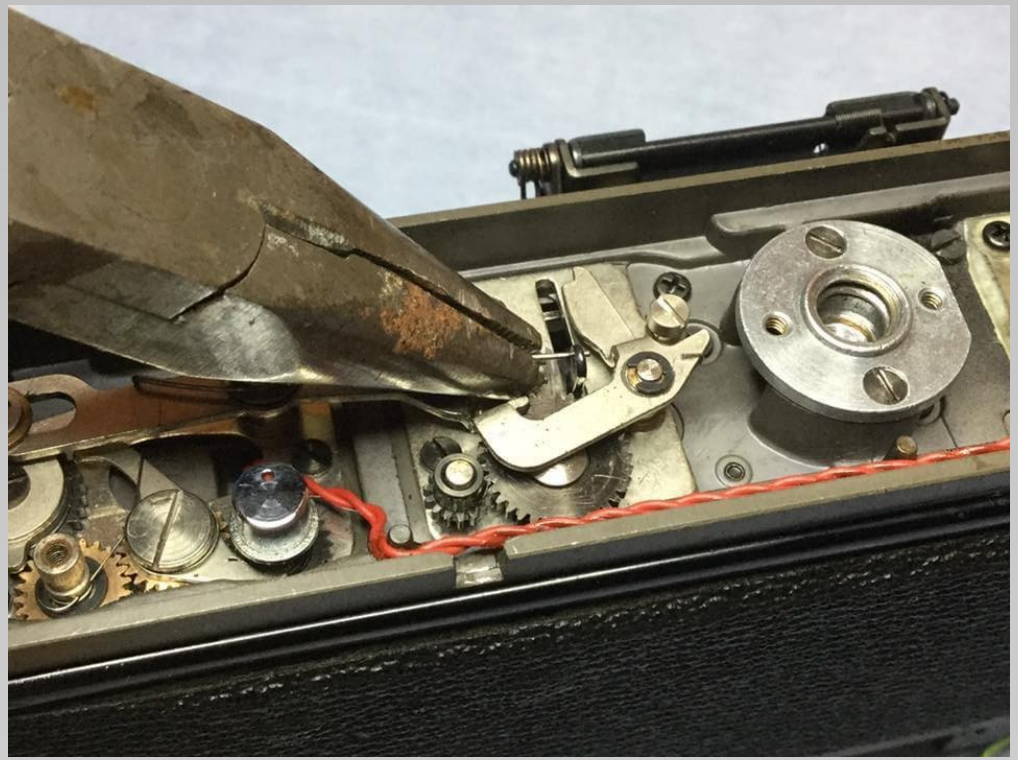
https://www.facebook.com/groups/360490091319202/?post_id=585264412175101

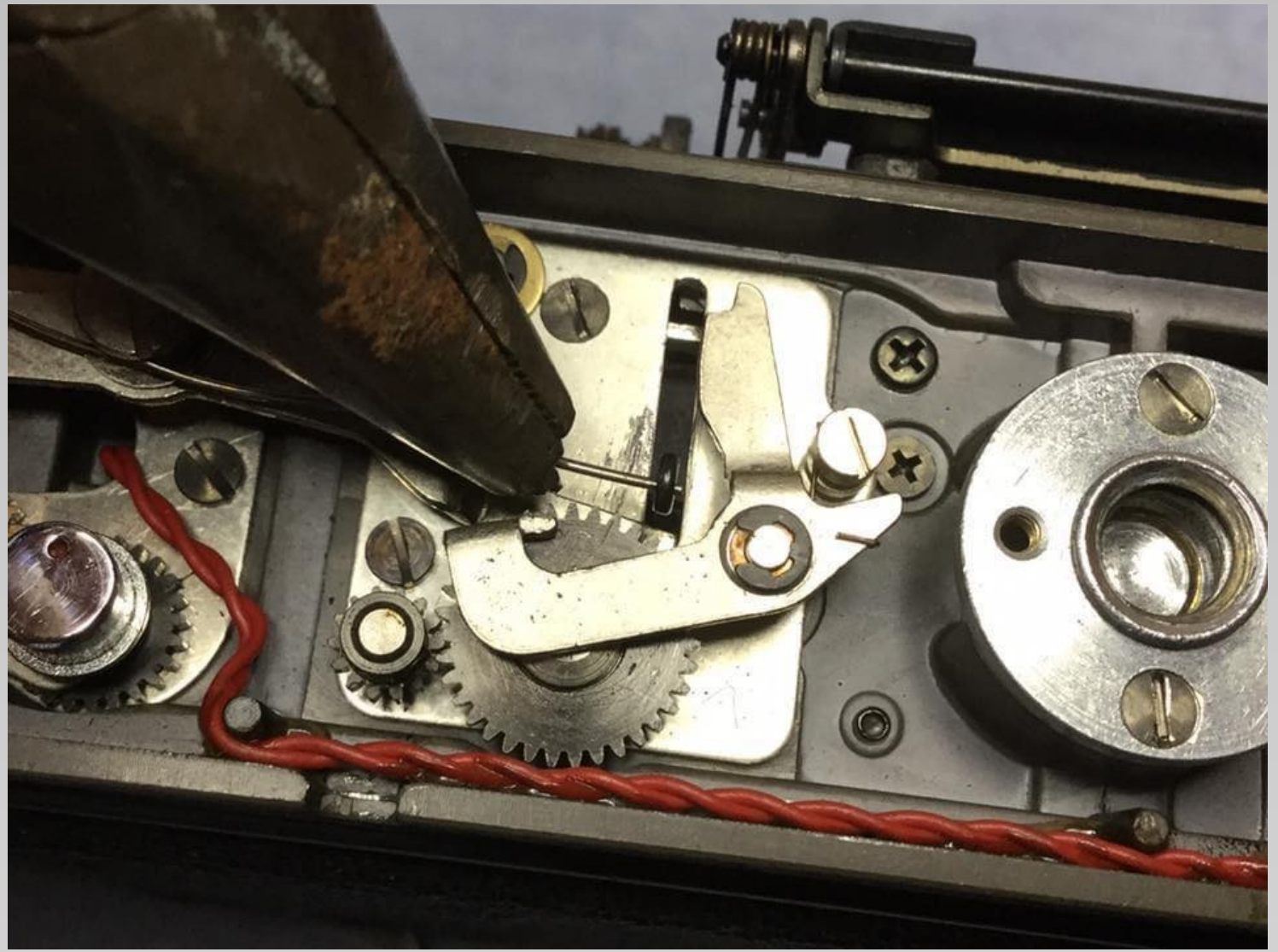
After lubricating the shutter, mirror mechanism, replacing the mirror up cushion and the rear rewind side light baffle, reassemble the mirror box to the body, note the positions of the release slide, upper mounting posts and be sure to install the lower mirror box screws in their correct positions, reengage the mirror charge spring at the bottom - use needle nose pliers to reinsert the long spring end through the hole in the mirror charge lever.











CLA Post #14

https://www.facebook.com/groups/360490091319202/?post_id=585266125508263

After the mirror unit is reinstalled, make sure you test it thoroughly - observe the action of the mirror, release slide where it couples with the mirror mechanism, the flash sync contacts and the bottom where the gear and post attached to the second shutter curtain disengage the mirror charge lever making it ready for the next winding cycle...

CLA Post #15

https://www.facebook.com/groups/360490091319202/?post_id=585267178841491

Now the body is ready to adjust the shutter speeds, the high speed of 1/1000 second (1.00 milliseconds) at this point is the most critical - after a slight curtain travel time adjustment this speed is dead on the money.

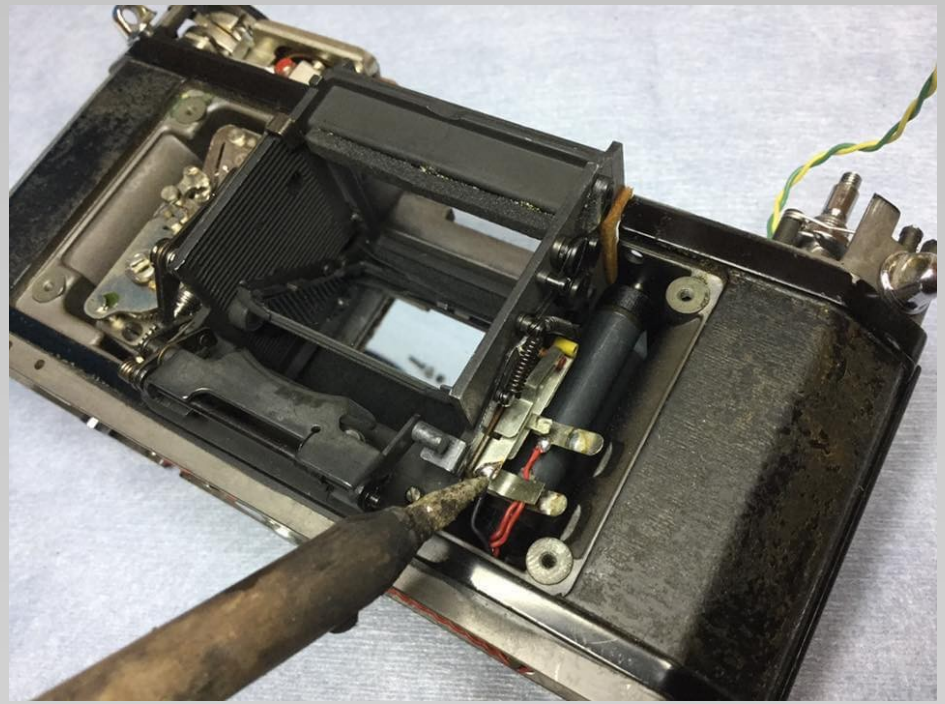
At this point reassembly is the reverse of disassembly, clean and test the mechanisms as you reinstall the from plate and prism assembly.

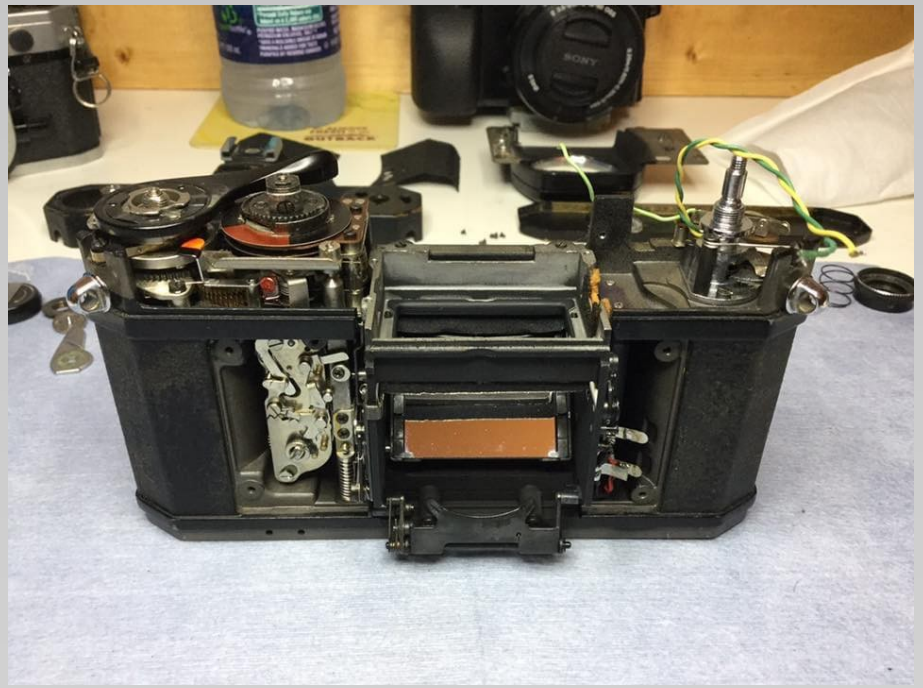

ZTS TESTER V
ERROR IN f-STOPS
-1.90
Ev - Av
TIME IN MILLISECONDS
SHUTTER SPEED
001.00
OPENING CURTAIN
12.96
CLOSING CURTAIN
12.92
ISO
100
200
400
800
ADJ
Av
CURTAIN TRAVEL
REVERSE
ZTS LIGHT STANDARD
12.0
LIGHT VALUE

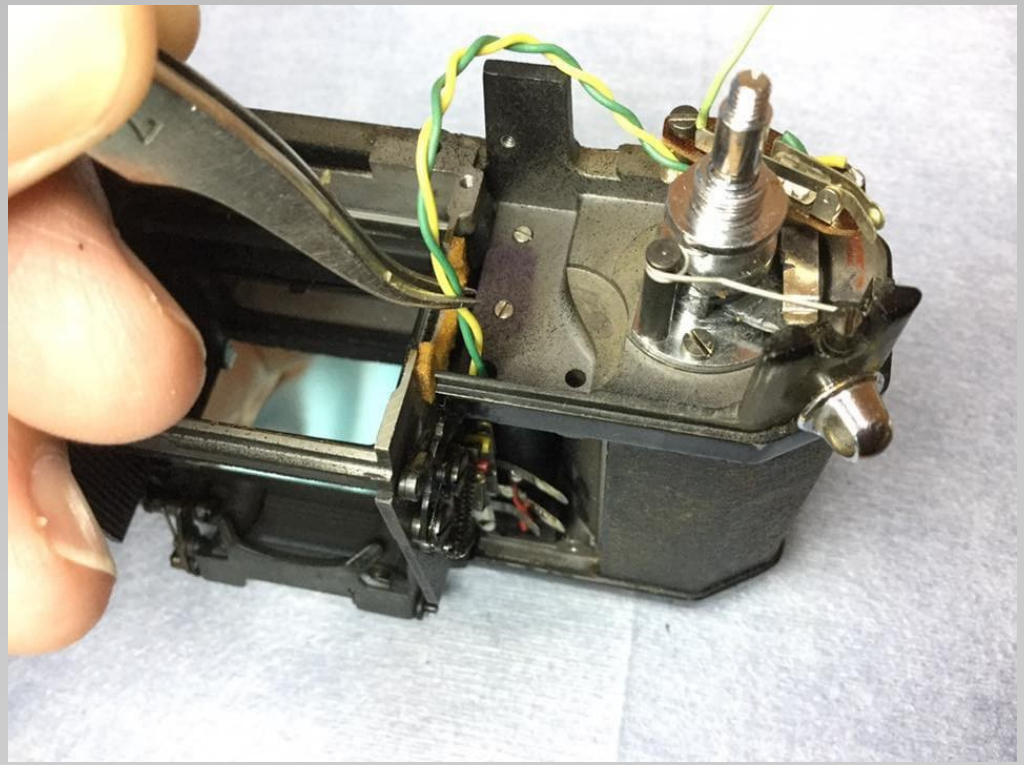
CLA Post #16

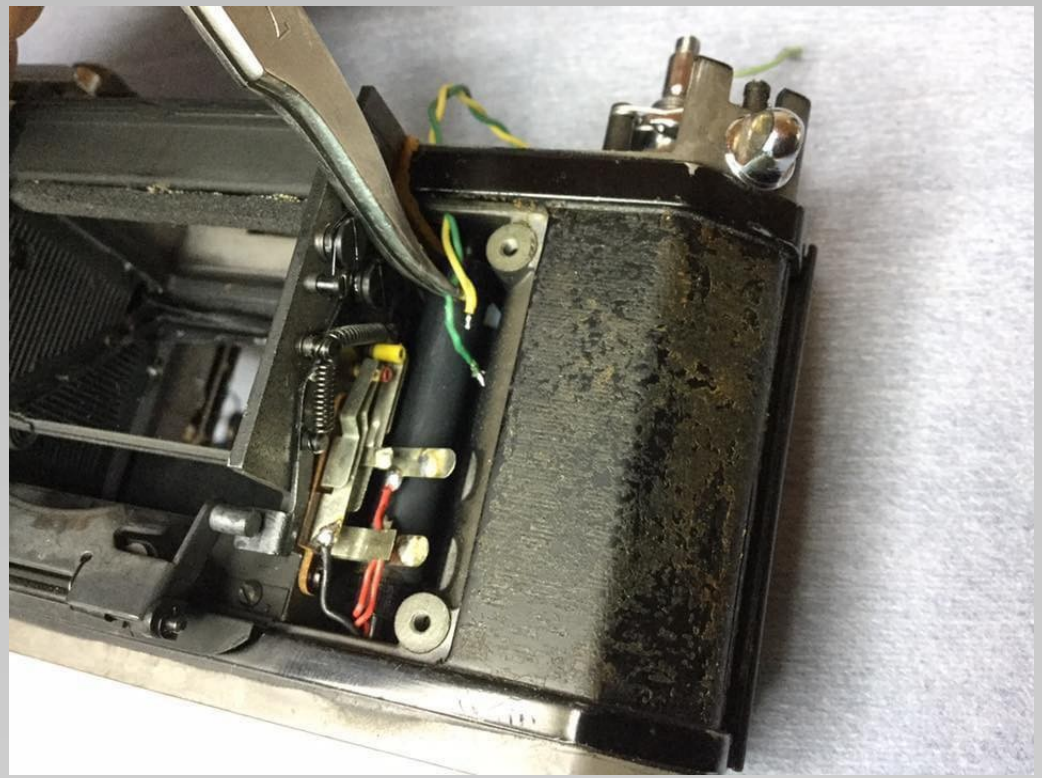
https://www.facebook.com/groups/360490091319202/?post_id=585268075508068

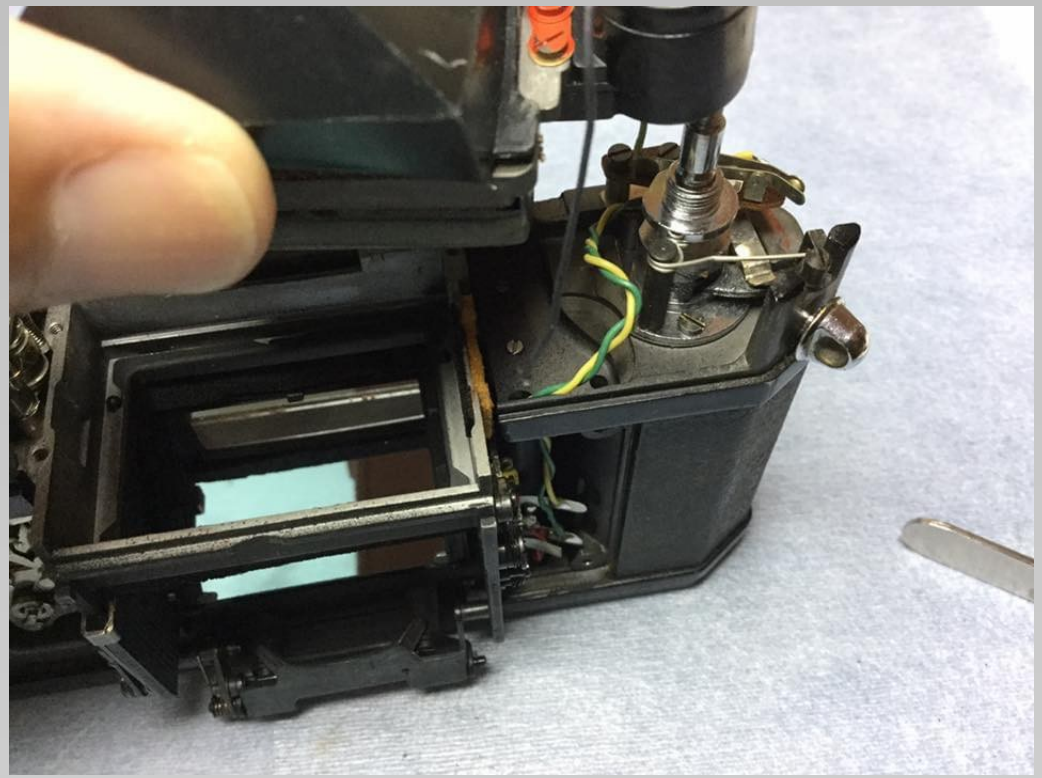
At this point it's time to resolder the wiring making sure to route the wires properly, test everything before proceeding to clean and attach the prism assembly, clean any flux residue from the soldered connections and get the front plate ready to reattach- pay particular attention to the self-timer bushing/coupler, the grease should hold it in place while the front plate is positioned to install.

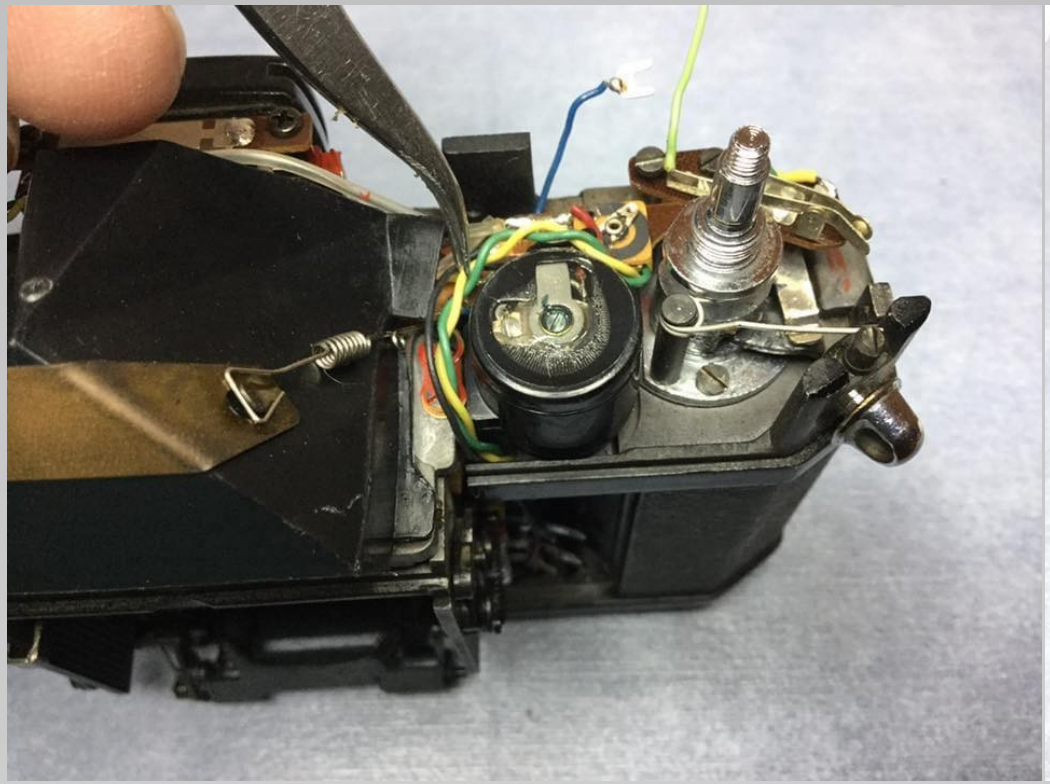


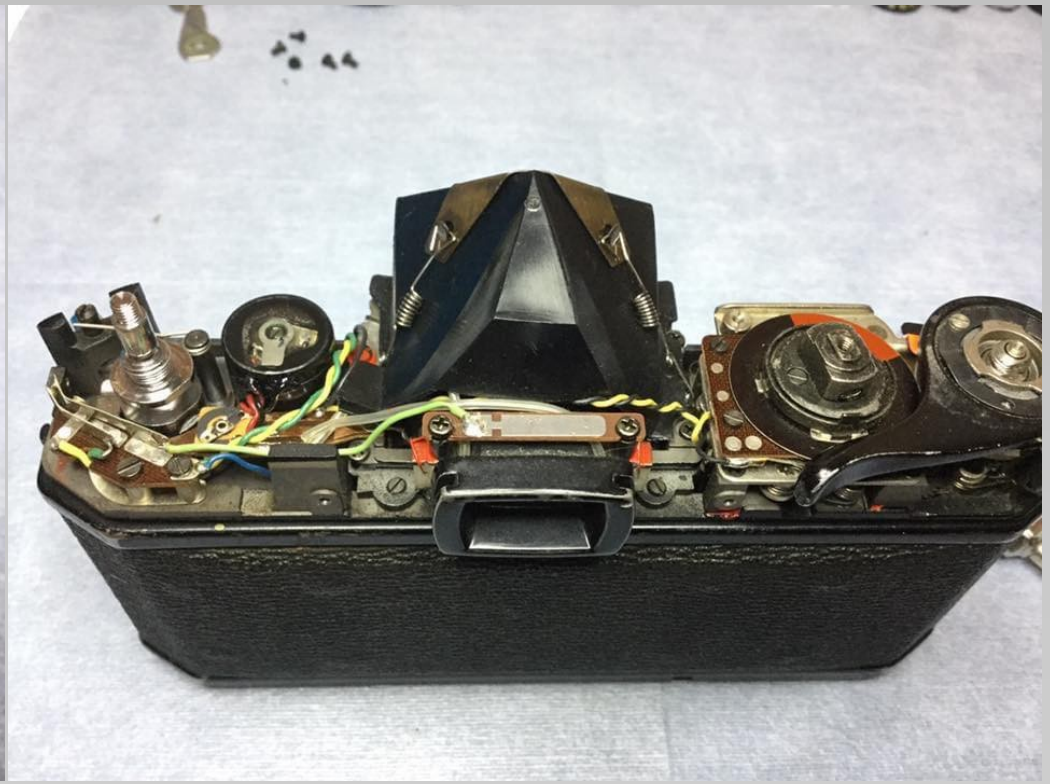













PENTAX

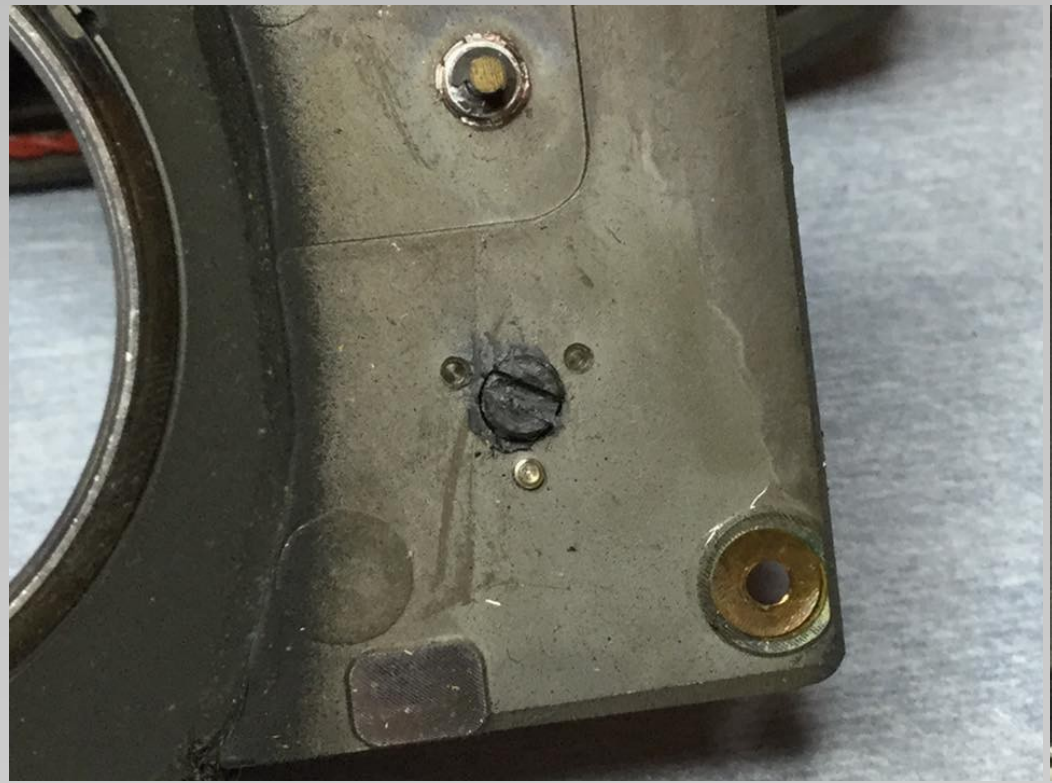
CLA Post #17

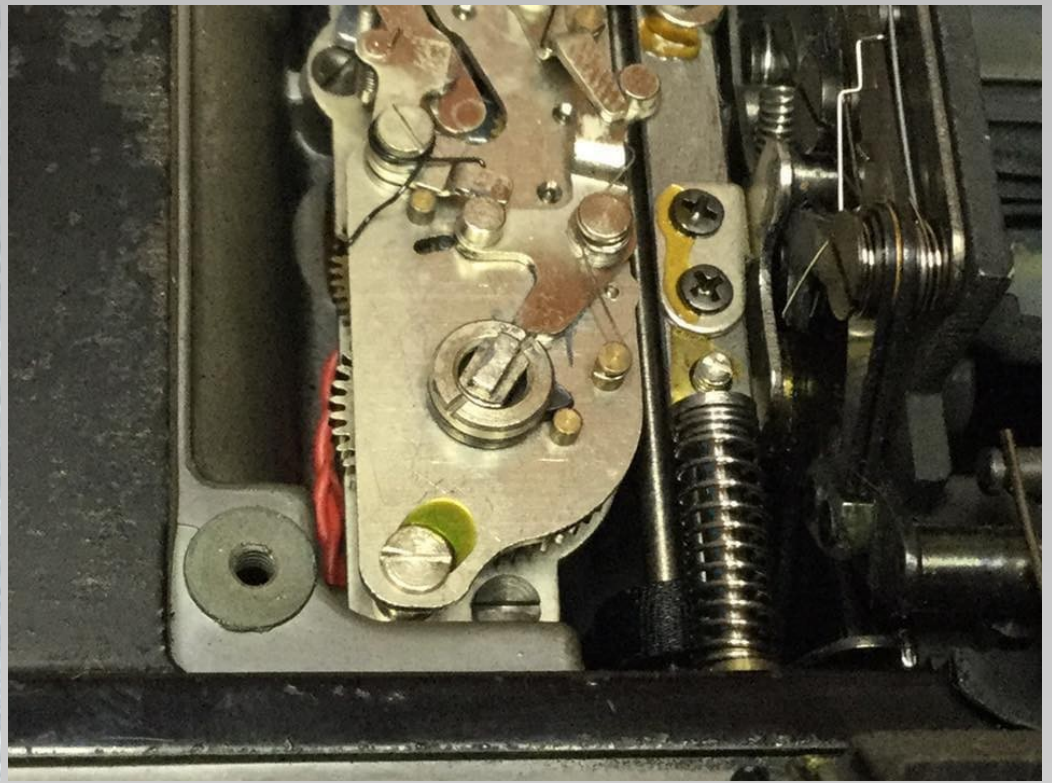
https://www.facebook.com/groups/360490091319202/?post_id=585268755508000

This is somewhat tricky to install the front plate but if you follow these steps it'll be a breeze - while positioning the front plate turn the self-timer bushing until it couples (the front plate will sit solidly when the coupling bushing slots line up).

Hold the front plate down while you reinstall the screws and test the operation - push up on the exposure meter switch and make sure it locks in the "on" position, wind and fire the shutter making sure the switch moves to the "off" position when the shutter fires and the the mirror moves up and down.

Wind the camera and the self-timer and push the self-timer release making sure the shutter fires and the self-timer lever stops at the proper position.





CLA Post #18
https://www.facebook.com/groups/360490091319202/?post_id=585270025507873
Testing the metering switch action…

Watch video at the page

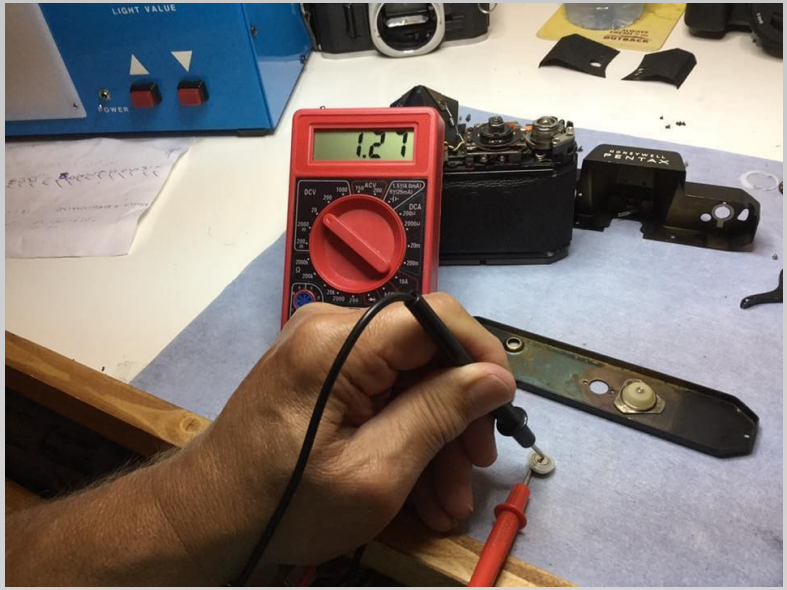
CLA. Post #19
https://www.facebook.com/groups/360490091319202/?post_id=585271138841095
There's a technical term camera repairmen use to describe cleaning the viewfinder of an old camera - it's called "pain in the as#".
This viewfinder cleaned up really nicely however it's nearly impossible to stay clean as the finders are rather poorly sealed and as the camera ages extremely small specks always seem to find their way to the magnified flat surfaces (perhaps static electricity has a little to do with that).

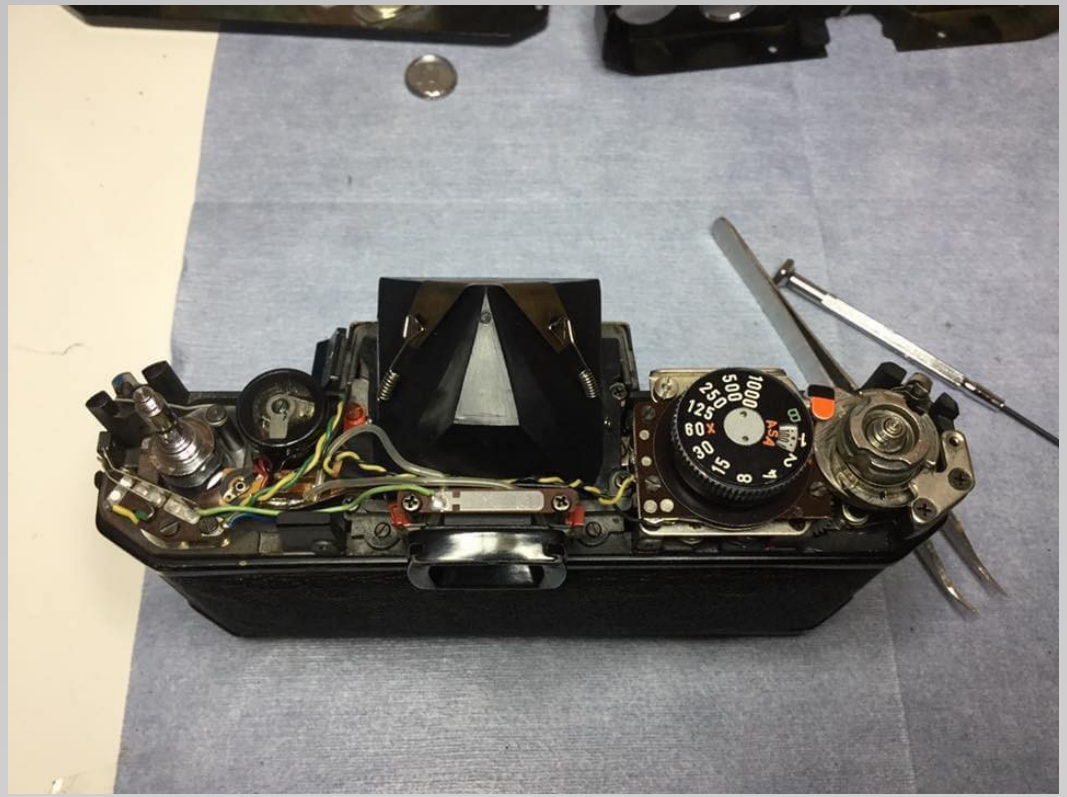
CLA Post #21

https://www.facebook.com/groups/360490091319202/?post_id=585272198840989

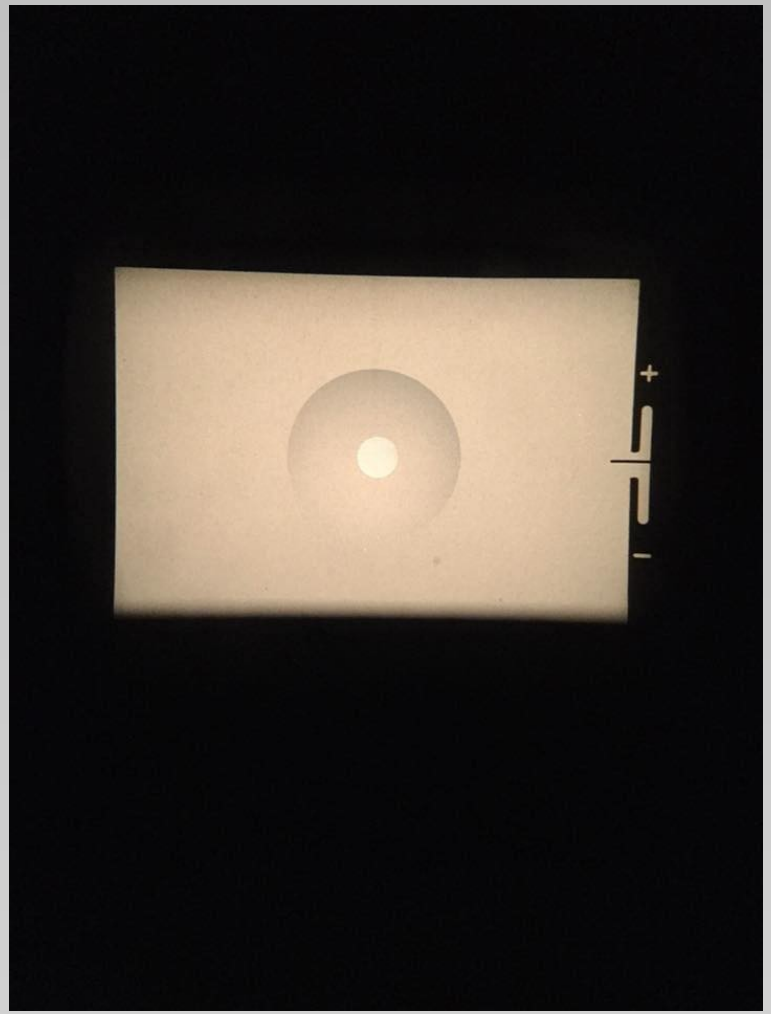
Test the battery before using it to adjust the exposure meter, I found this battery that came with the camera weak, not bad but not fresh - I decided to use the power supply to provide the proper voltage of 1.35 volts to adjust the meter.

The meter is accurate at a mid and high light level after a slight adjustment but slightly off overexposing at an extremely low light level of EV8 (a sign the photocells are slowly going bad). I have no way of knowing how long the photocells will last, new cells are currently unavailable to my knowledge, a hand held meter would be a useful tool to have handy.

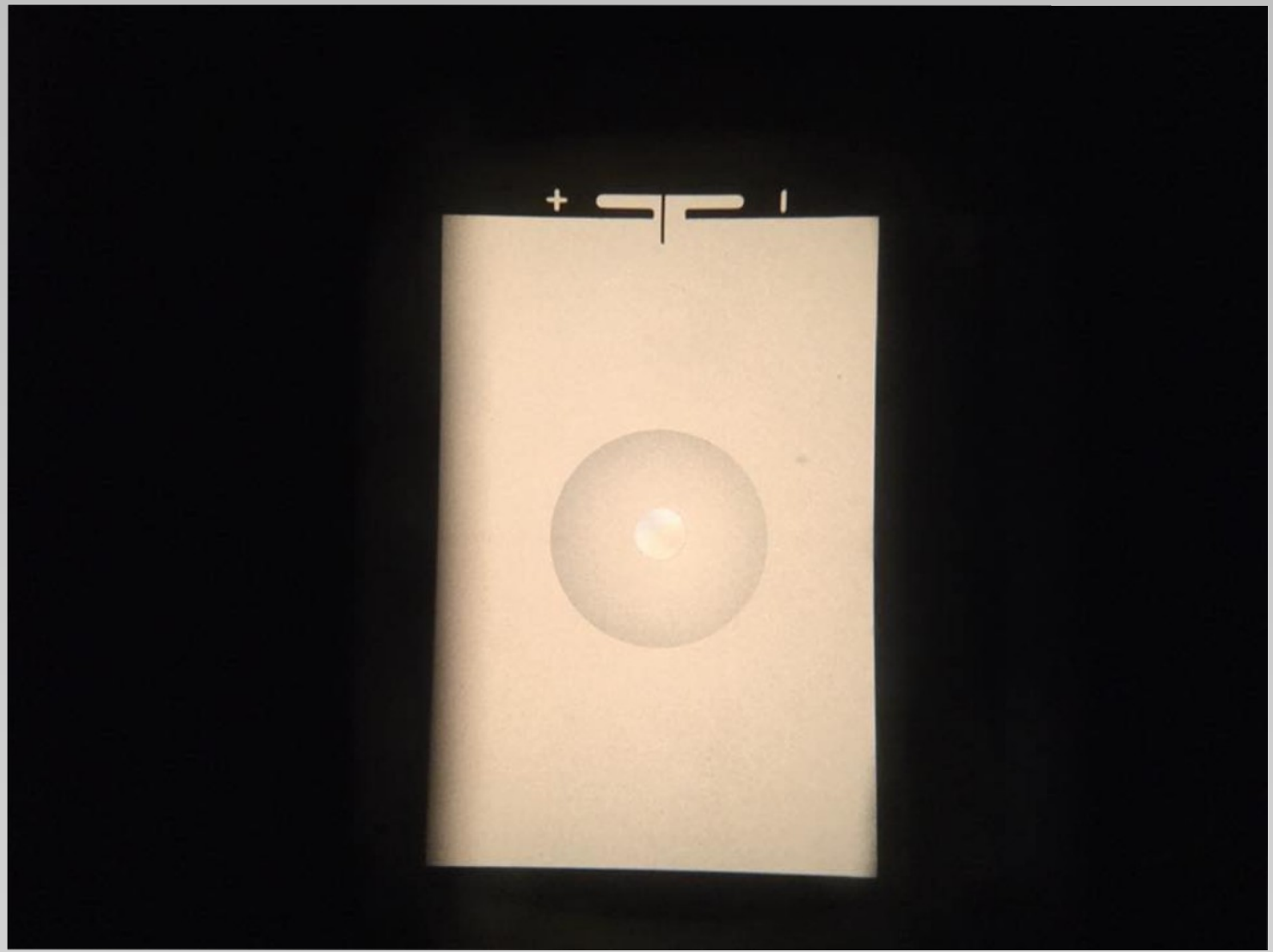





MICRONTA
ADJUSTABLE DUAL-TRACKING DC POWER SUPPLY
VOLTAGE ADJUST
METERING
MODE
POWER
EMP
ZTS TESTER V
ERROR IN f-STOPS
Ev - Av
TIME IN MILLISECONDS
SHUTTER SPEED
OPENING CURTAIN
CLOSING CURTAIN
ISO
ADJ
Av
CURTAIN TRAVEL
REVERSE
ZTS LIGHT STANDARD
12.0
LIGHT VALUE
PENTAX
Canon
AE-1




MICRONTA
ADJUSTABLE DUAL-TRACKING DC POWER SUPPLY
VOLTAGE ADJUST
METERING
MODE
POWER
ZTS TESTER V
TIME IN MILLISECONDS
ERROR IN f-STOPS
Ev - Av
SHUTTER SPEED
OPENING CURTAIN
CLOSING CURTAIN
ISO
100
200
400
800
ADJ
Av
CURTAIN TRAVEL
REVERSE
ZTS LIGHT STANDARD
15.0
LIGHT VALUE



CLA Post #22

https://www.facebook.com/groups/360490091319202/?post_id=585273015507574

I've finished cleaning, installing new light seals and double checked the adjustments. Outwardly the black finish shows it's age (silver seems to fare better over time) but this camera is really clean inside and aside from a little dust and debris well taken care of, I love these Spotmatic cameras, they were indeed made to last a lifetime and built with quality in mind, if you've never used a Pentax Spotmatic and those fabulous lenses, pick one up and have to some fun, it'll never you down.


HONEYWELL
PENTAX