

# Olympus Trip 35 Illustrated Repair Instructions

Olympus introduced the Trip 35 in 1968. The camera remained in production for 20 years, and Olympus sold over 10 million of them. Both of these numbers must surely stand as records in the annals of camera history. The popularity of this camera was due to the convergence of two factors. They are very small, light, well made, easy to use, and reliable. They don't even need a battery! They also take pictures that rival or exceed the best cameras ever made – including modern, fancy DSLRs costing thousands of dollars!

Today, these cameras are readily available and very inexpensive. Many of them are still used regularly by their original owners. Many more have been given a second chance by people who have recently discovered these little gems. However, they are reaching an age where many of them could use some simple service. There is a common myth that many of these cameras no longer work because the selenium photo cell is no longer functioning. This is not very likely.

The selenium cells and the meter circuits used in this camera are very robust. In all probability these are still working just fine. The likely cause of any problem is that the aperture blades are stuck. This is very easy to fix. But first let's look at how this camera works to see if we can figure out what's wrong with it.

The Trip 35 is fully automatic. Contrary to popular belief, there is no manual override. The camera uses a “trapped needle” mechanism for setting the proper exposure. The aperture is held stopped down to f22 by a spring. When the shutter button is pressed, a bar comes up and “traps” the meter needle against a plate. Following right behind the bar is a cam which is connected to the aperture blades. This comes up until it touches the trapped meter needle. The distance the cam travels determines how far the aperture opens.

So if you look into the lens, you'll see a small diamond shape, about 1mm across. This is the aperture closed down to f22. Push down the shutter release and the aperture should open. If it doesn't open, don't worry! Just keep reading, and you'll learn what to do.

The camera has two shutter speeds – 1/40 and 1/200 second. The camera chooses between these two shutter speeds based on its internal “logic”. None of the documentation describes how or when this decision takes place, but experimentation shows that the camera will switch to 1/200 s and ~f8 when shooting a bright (daylight) subject and loaded with 100ASA film. If there is not enough light for proper exposure at f2.8 and 1/40 second, a red flag will show in the viewfinder. This flag is connected to the same linkage as the aperture setting cam, so if the aperture blades are stuck the flag will not display.

The camera has a “Flash” scale which can be used for flash photography. Using the “Flash” setting just sets the shutter speed to 1/40 s. and controls the largest aperture. The meter may still set the aperture to a smaller setting. So it is not a real manual override. You can see this by shining a light into the photocell, and seeing where the aperture opens up to when you press the shutter release. (For this to work, the aperture mechanism must be free to open.).

The instructions below show how to determine if the meter is working, and how to repair stuck aperture blades. Only you can determine if you have the skills and ability to perform a repair of this type. The author is not responsible for any damage you may do. Note that left and right refer to the camera's left and right. All screw threads are standard, right-hand threads. The tools required are:

- ice cube tray
- small screwdrivers
- lens cleaning cloth
- Q-tips
- wooden popsicle stick
- lighter fluid
- graphite lubricant
- red marker
- plastic sandwich bags

1. Remove the top of the camera. The top is held on with three screws. One is on the right side, just under the wrist strap lug. The other two are under the film rewind crank. To get to these two screws, it is necessary to remove the film rewind crank. Open the back of the camera and put a rod or stick between the fingers of the film rewind shaft (Although a screw driver will work for this, a wooden popsicle stick is the best tool, as this can't damage the shaft.). Grasp the film rewind crank and unscrew it. Put the three little screws and the film rewind parts in the first cup in the ice cube tray. Once the top has been removed, the meter can be seen directly to the right of the viewfinder.

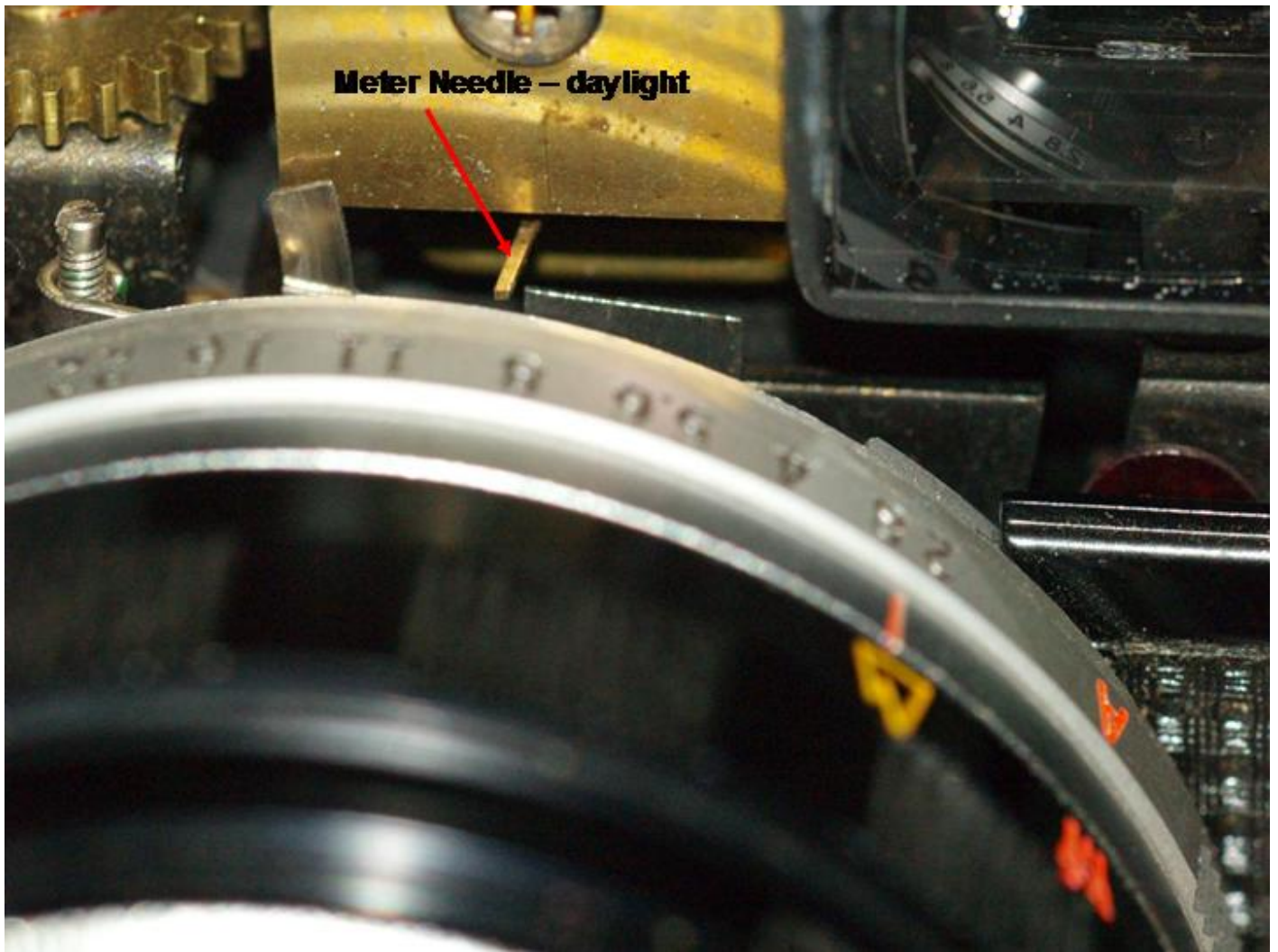


2. The meter needle is just below the brass plate. With no light shining into the cell, the needle will be fully to the left, up against the viewfinder.



3. With normal daylight shining into the cell, the needle will deflect about half way to the right. If this happens, the selenium cell and meter are working fine. If the needle doesn't move, the cell and the meter might still be working OK. Remove the brass plate above the meter needle, and check to see if a loose screw has been attracted to the meter magnet.





4. Push down the shutter release half way. The trap bar will rise up to trap the needle against the brass plate. The aperture setting cam rises right after the trap bar. If the meter is working, but the cam does not move, then the problem is with the aperture blades.



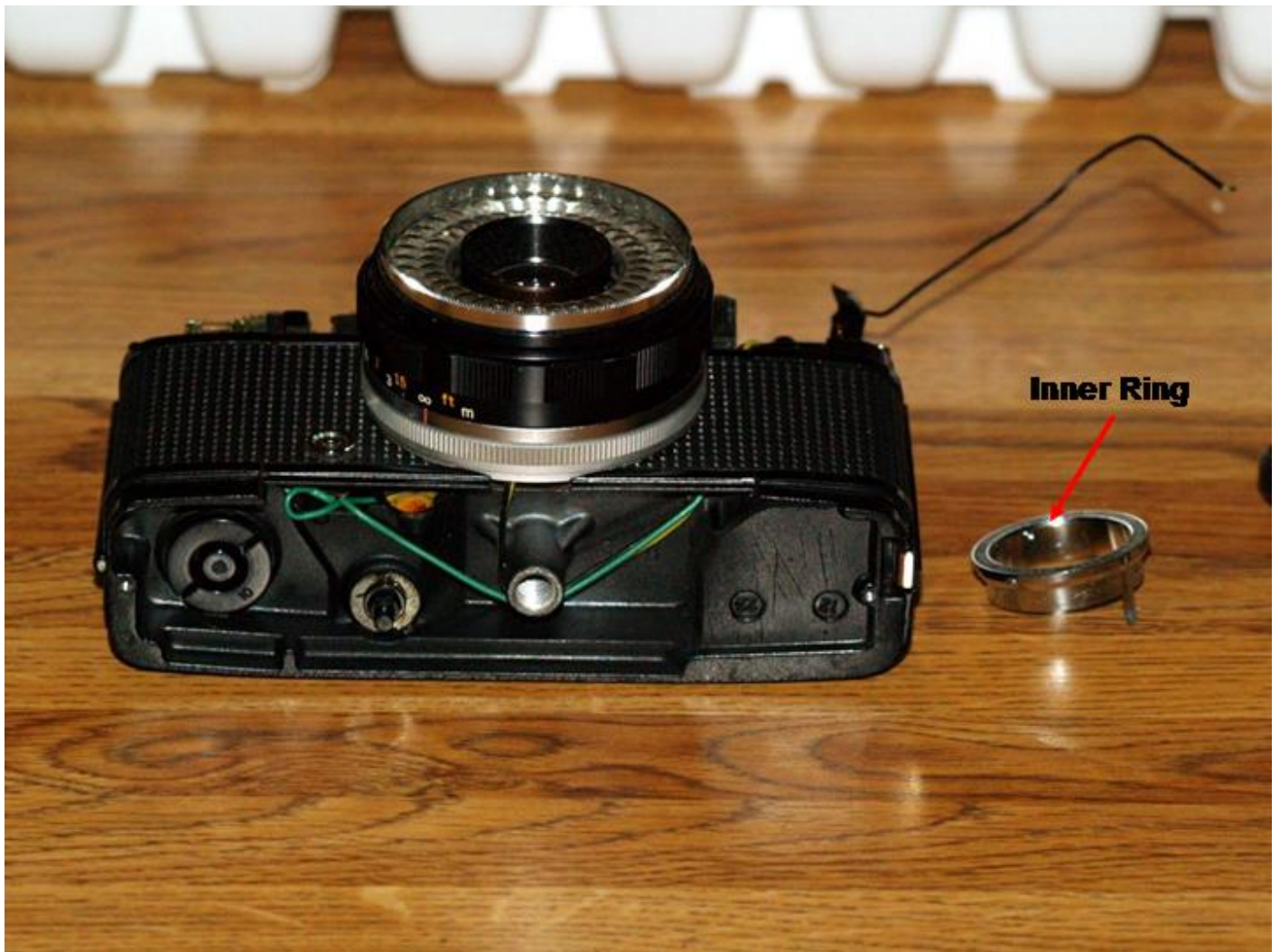
5. Once you have verified that the problem is not with the cell or the meter, it is time to remove, clean and lubricate the aperture blades. You can desolder the hot shoe wire to set the top aside and out of the way. This makes the camera easier to handle, but is not necessary as long as you are careful. Now remove the bottom plate. This is held on with two screws. Put the two little screws in the second cup of the ice cube tray.



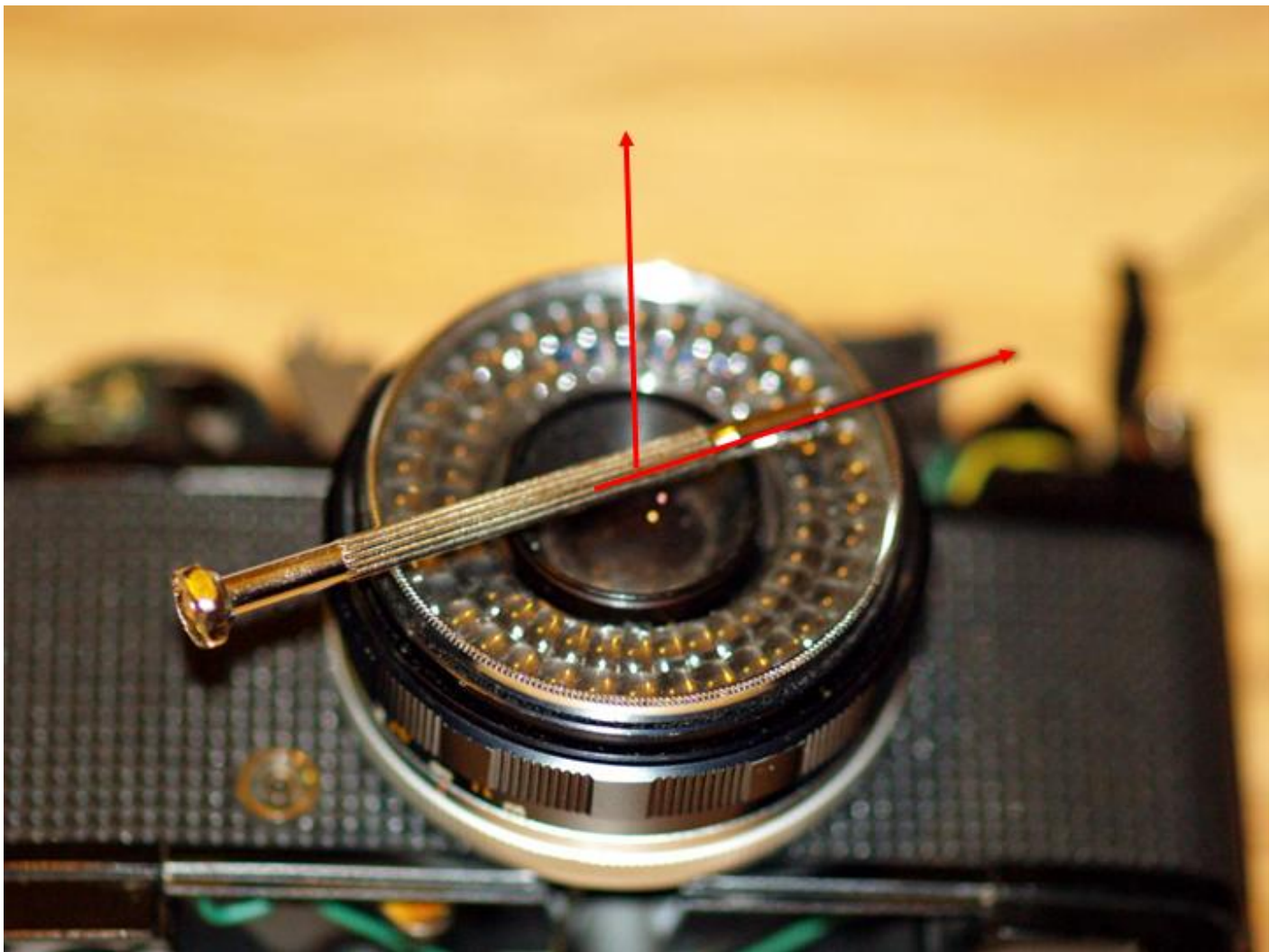


6. The front, inner ring is connected to the front lens element by three set screws, so the front lens element turns as the front ring rotates. The front lens element is mounted on threads, so it moves in and out as it turns. A tang on the front ring engages the focus ring, so that the front ring and the focus ring move as a unit. Look in the front of the lens while you turn the focus ring. You'll see the front ring, lens, and focus ring all move together.

Set the focus to infinity (the mountain icon). Loosen the three set screws around the outside of the inner ring. Do not remove them the whole way, just loosen them (If they are removed completely they will be difficult to reinstall). Be careful not to rotate the ring as you remove it. Lift it straight off. Put the inner ring in the third cup of the ice cube tray.



7. Note the position of the front lens element. Use a red marker to mark the 12:00 position. Then just to make double sure, screw the lens in the whole way and note how far it turned. In the picture below the lens turned to about the 2:30 position.

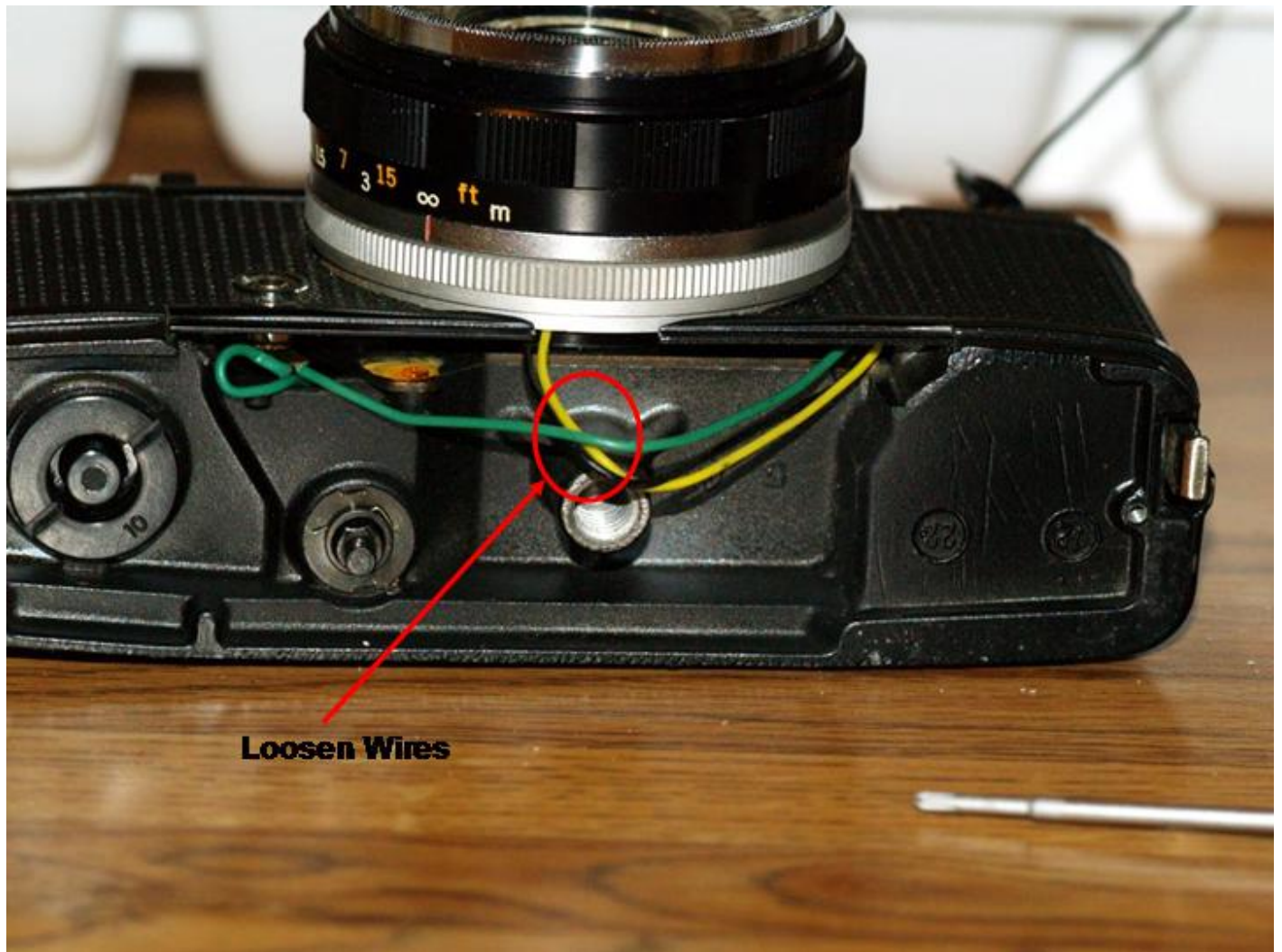


8. Unscrew the front lens. Clean both sides thoroughly. Put it in a plastic bag to protect it, then put it in the next cup of your ice cube tray.

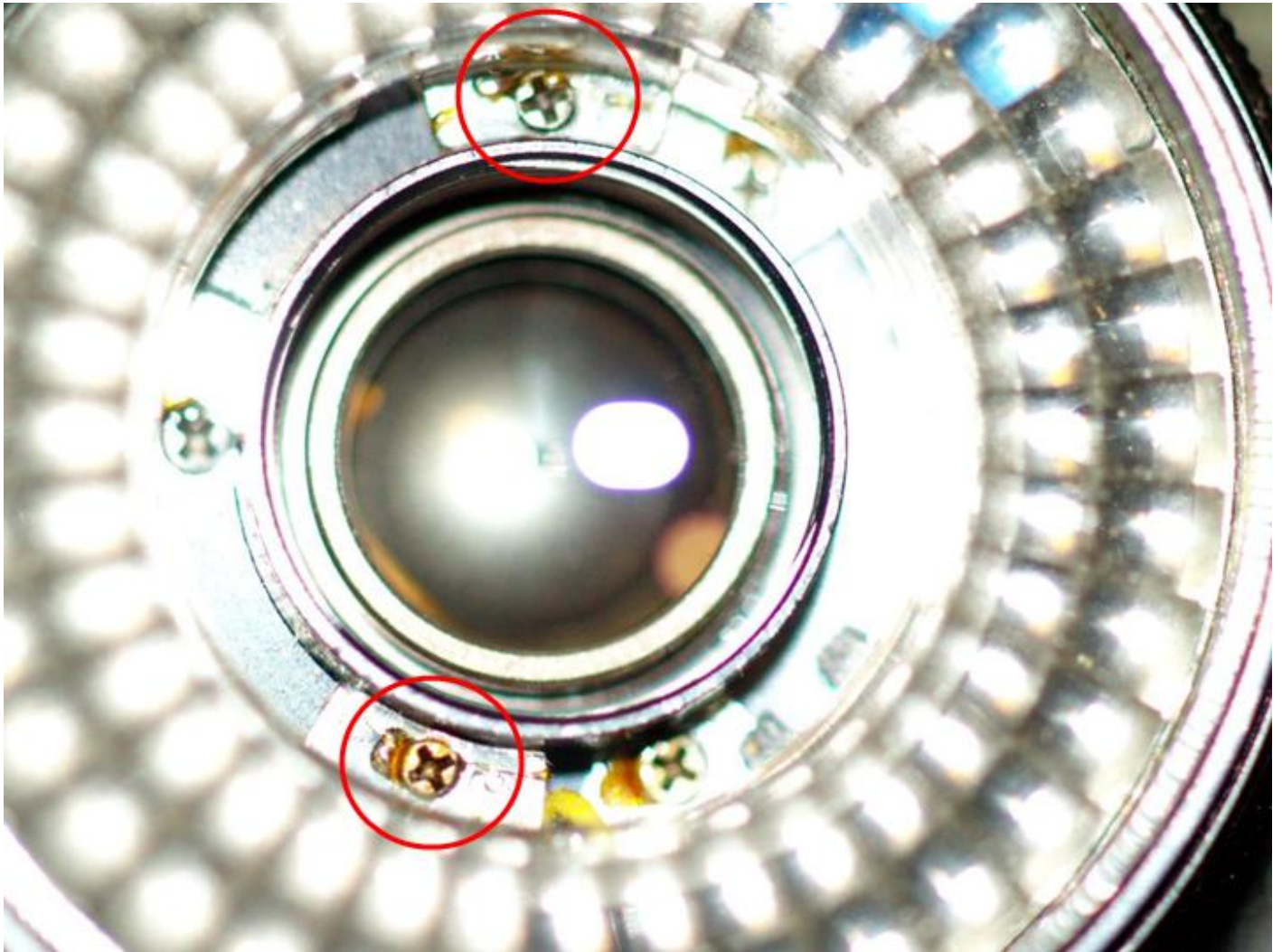




9. Now loosen the wires that run to the photocell. These wires run behind the tripod mount, and must be loosened before the photocell can be removed.

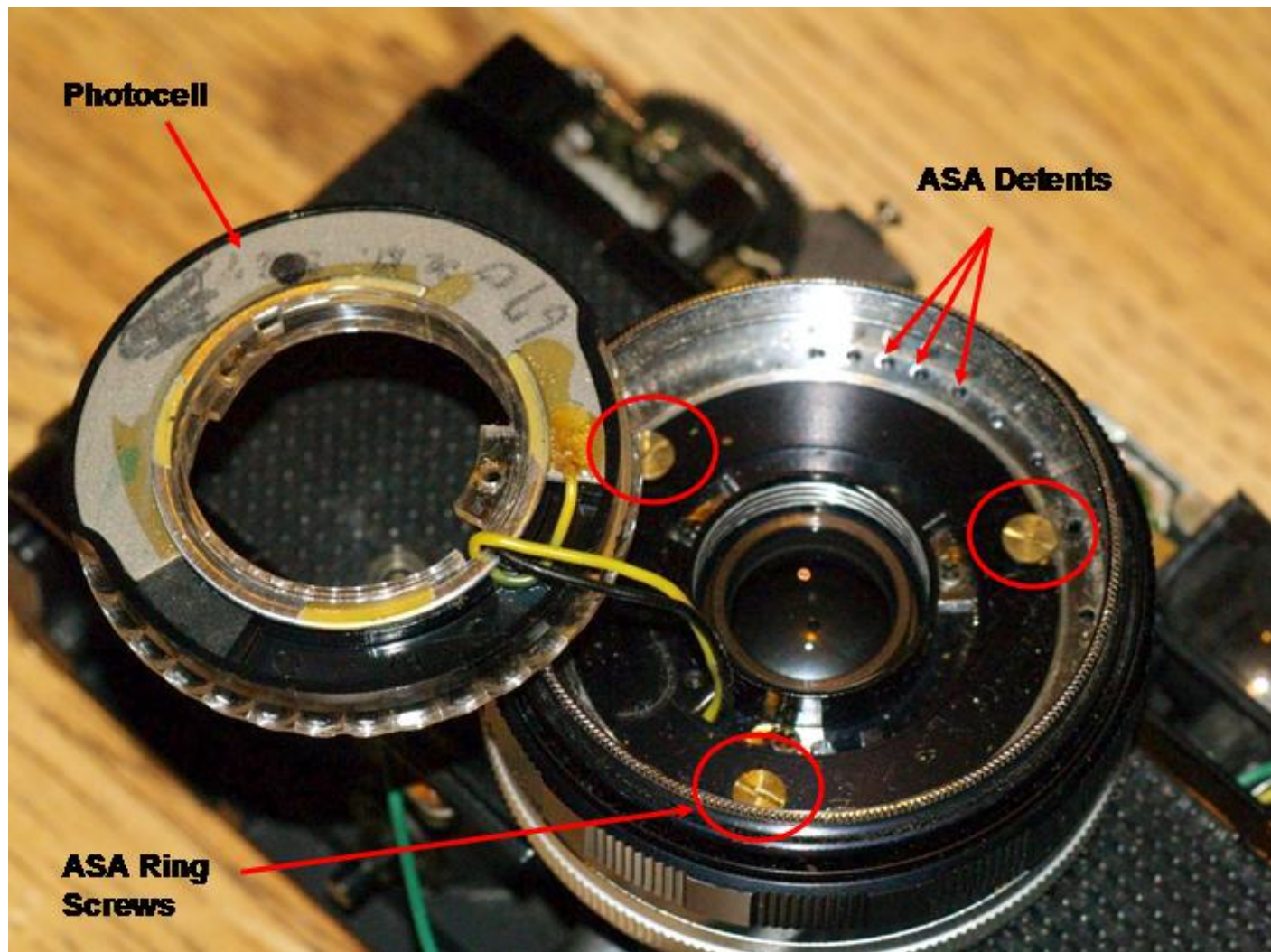


10. Remove the screws that hold the photocell in place. Put them into the next cup of the ice cube tray.

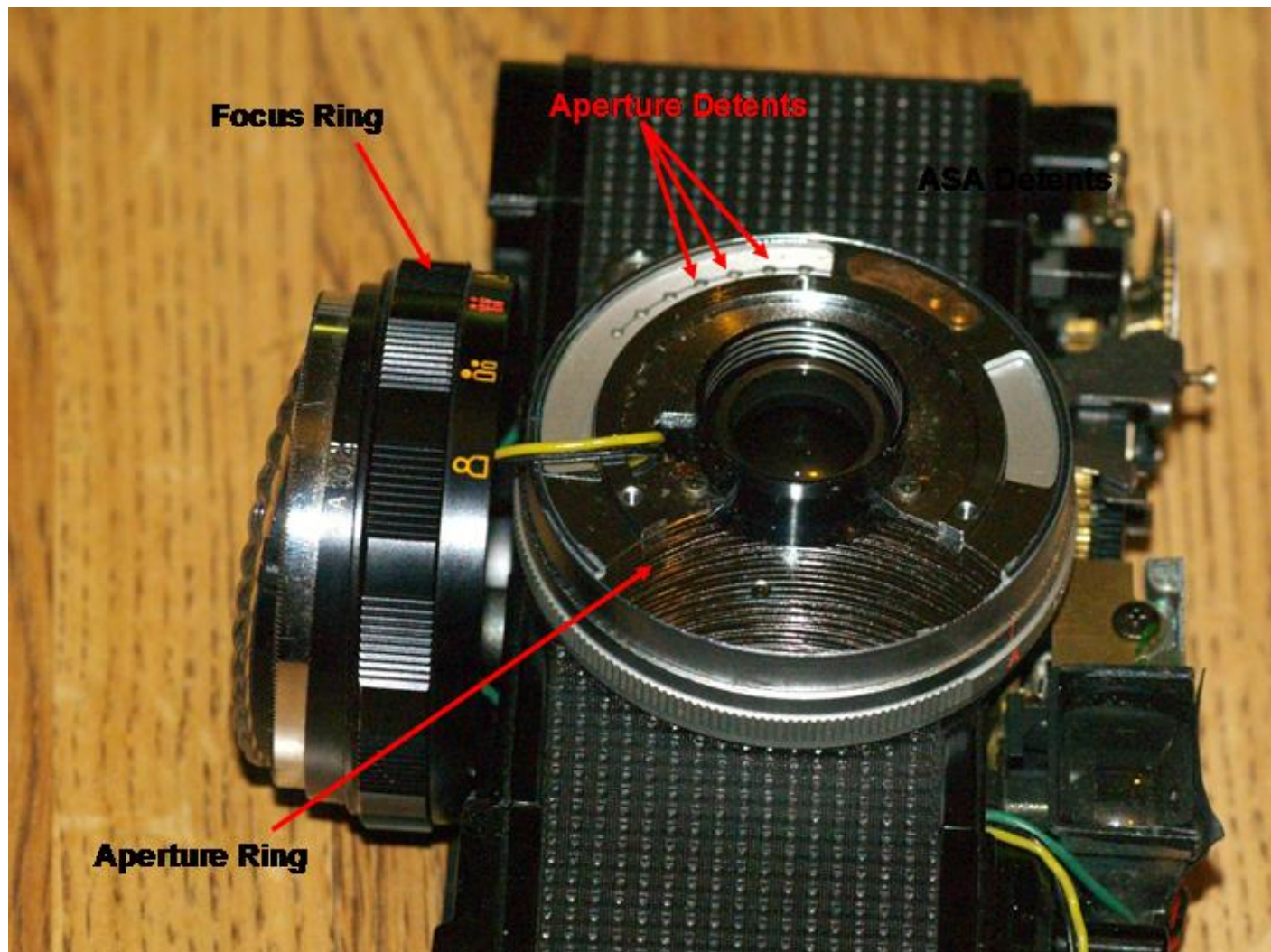


11. Gently lift up the photocell. Grasp the wires and gently pull them thru the camera body.



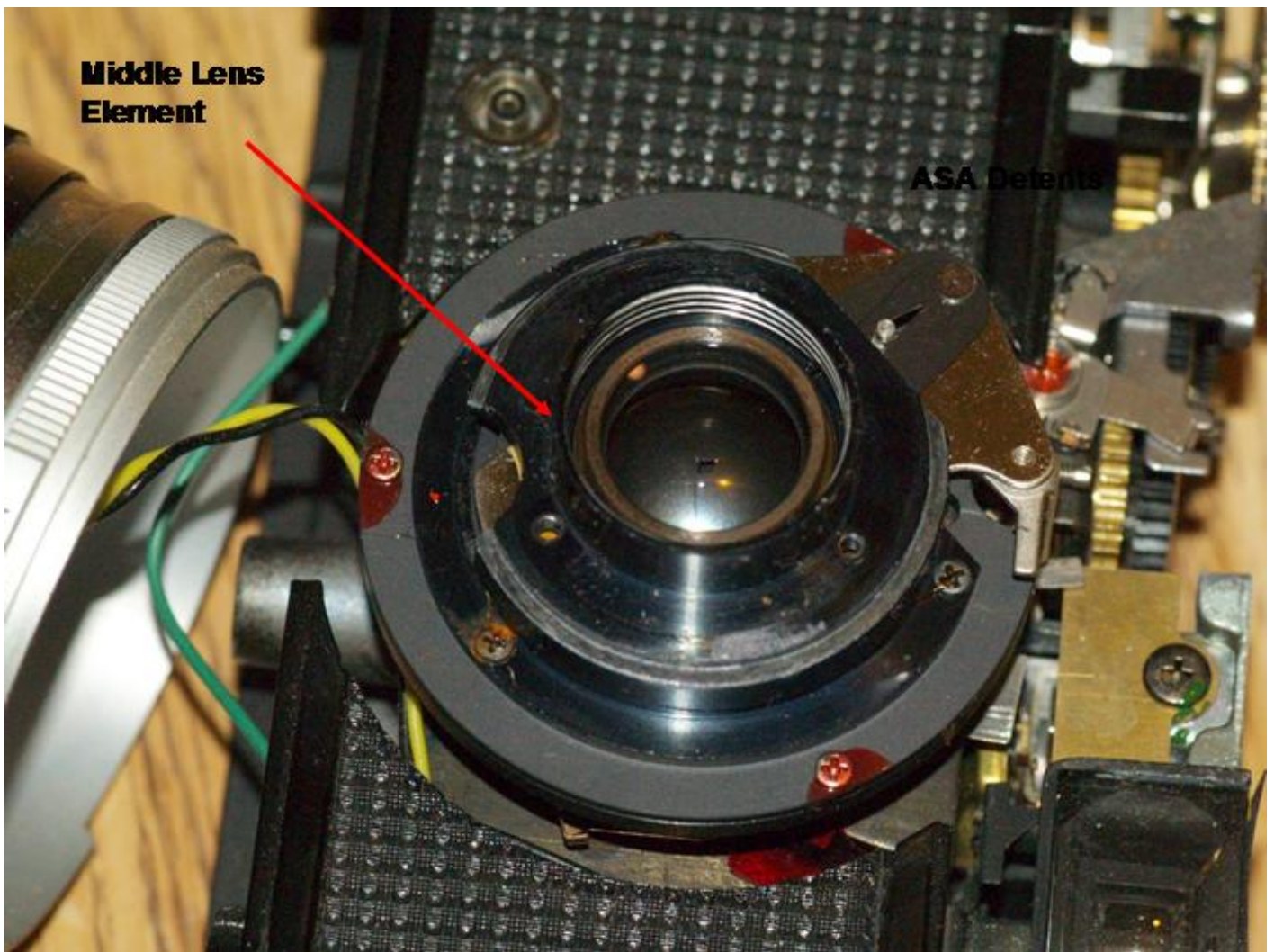


12. Remove the three flat head screws that hold the ASA ring and focus ring in place. Be careful not to lose the ball bearing detent on the ASA ring à it's only about 1mm in diameter. It may be held in place by grease. Put the screws (and the ball detent if it's loose) into the next cup of the ice cube tray.



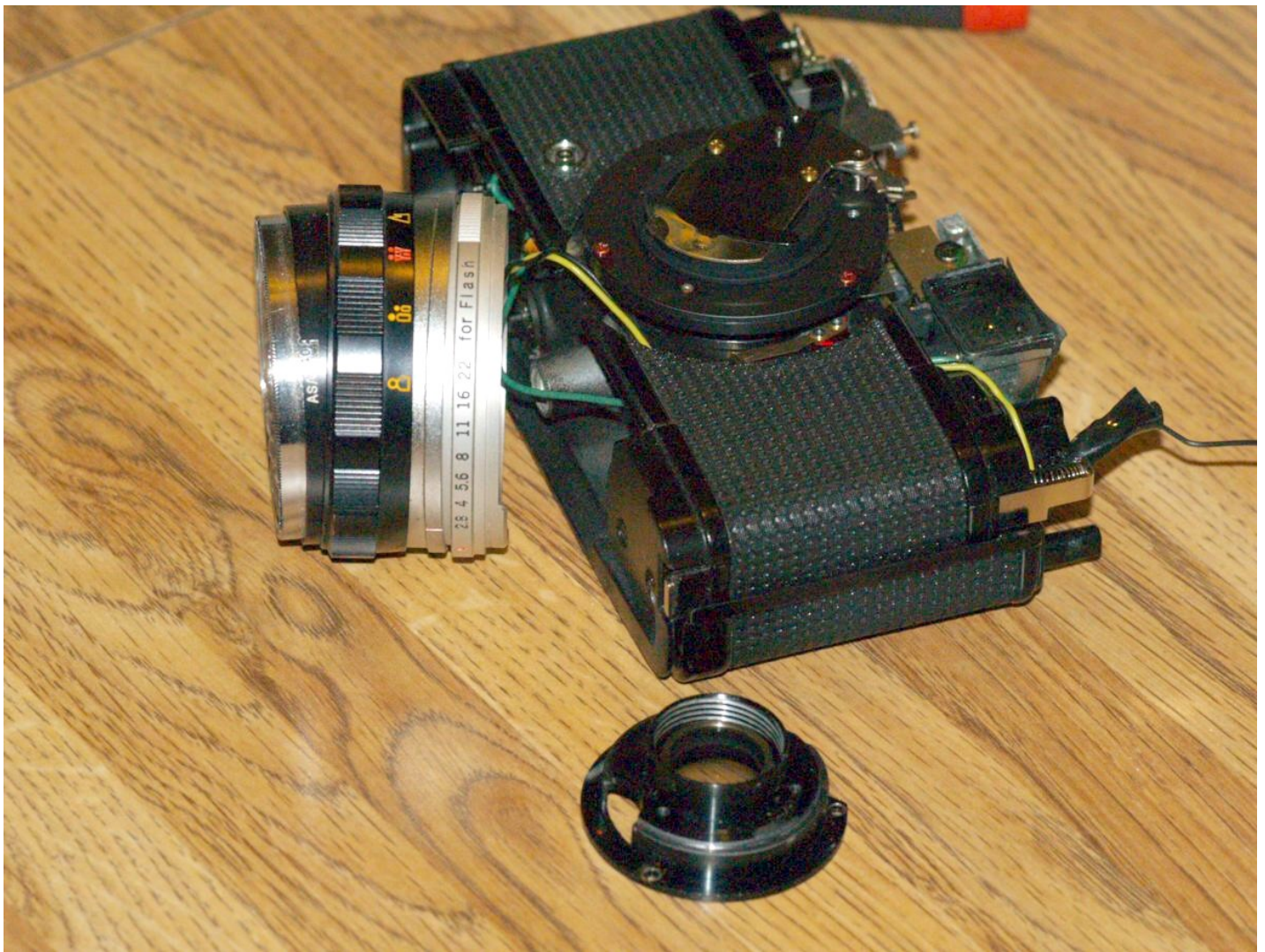
13. Remove the aperture ring. Be careful, this has a ball detent, too. You know what to do with the screws and the ball.





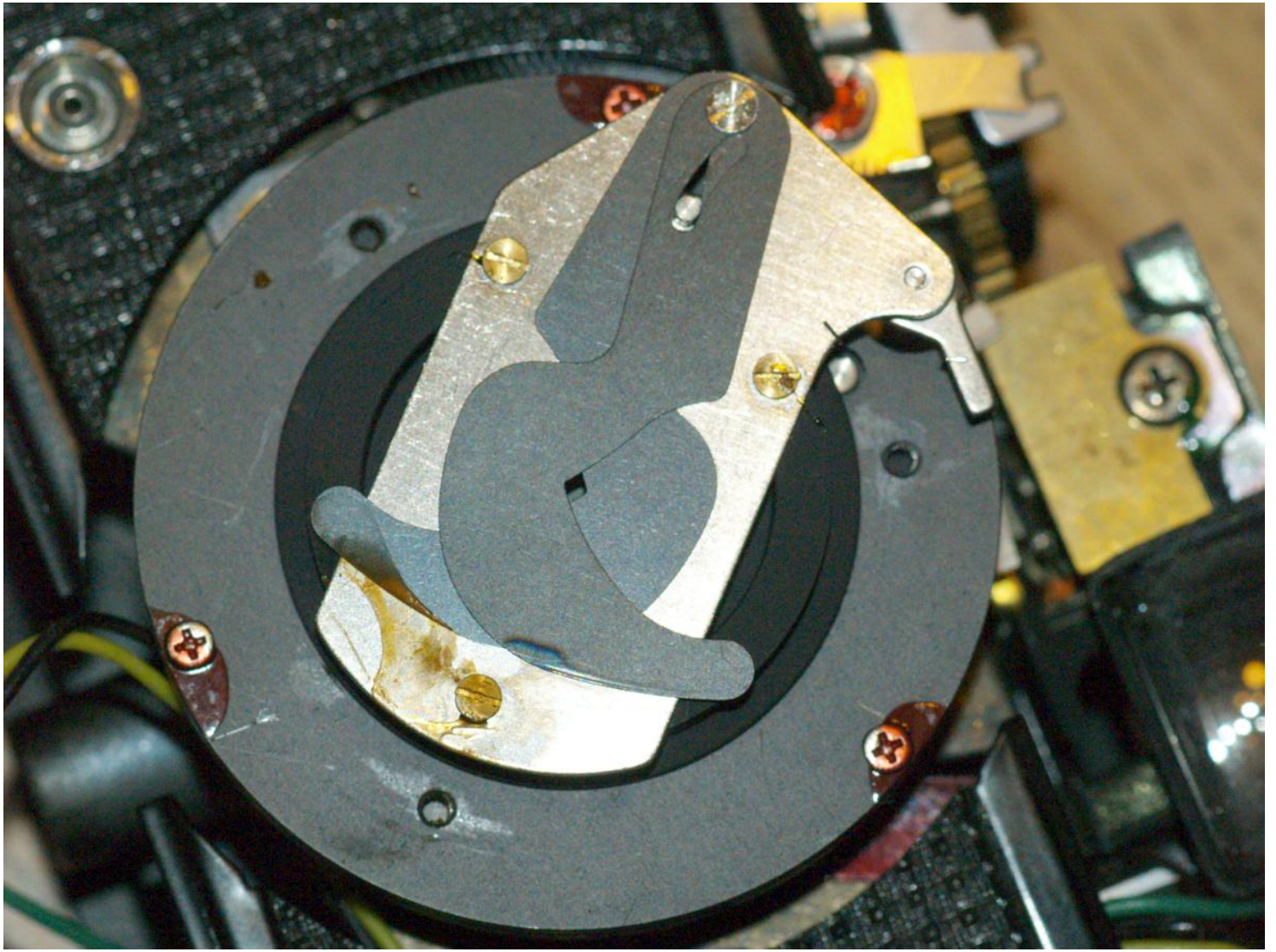
14. This will reveal the middle lens element. Remove it, clean it, put it in a sandwich bag, then put it into the next cup of the ice cube tray.





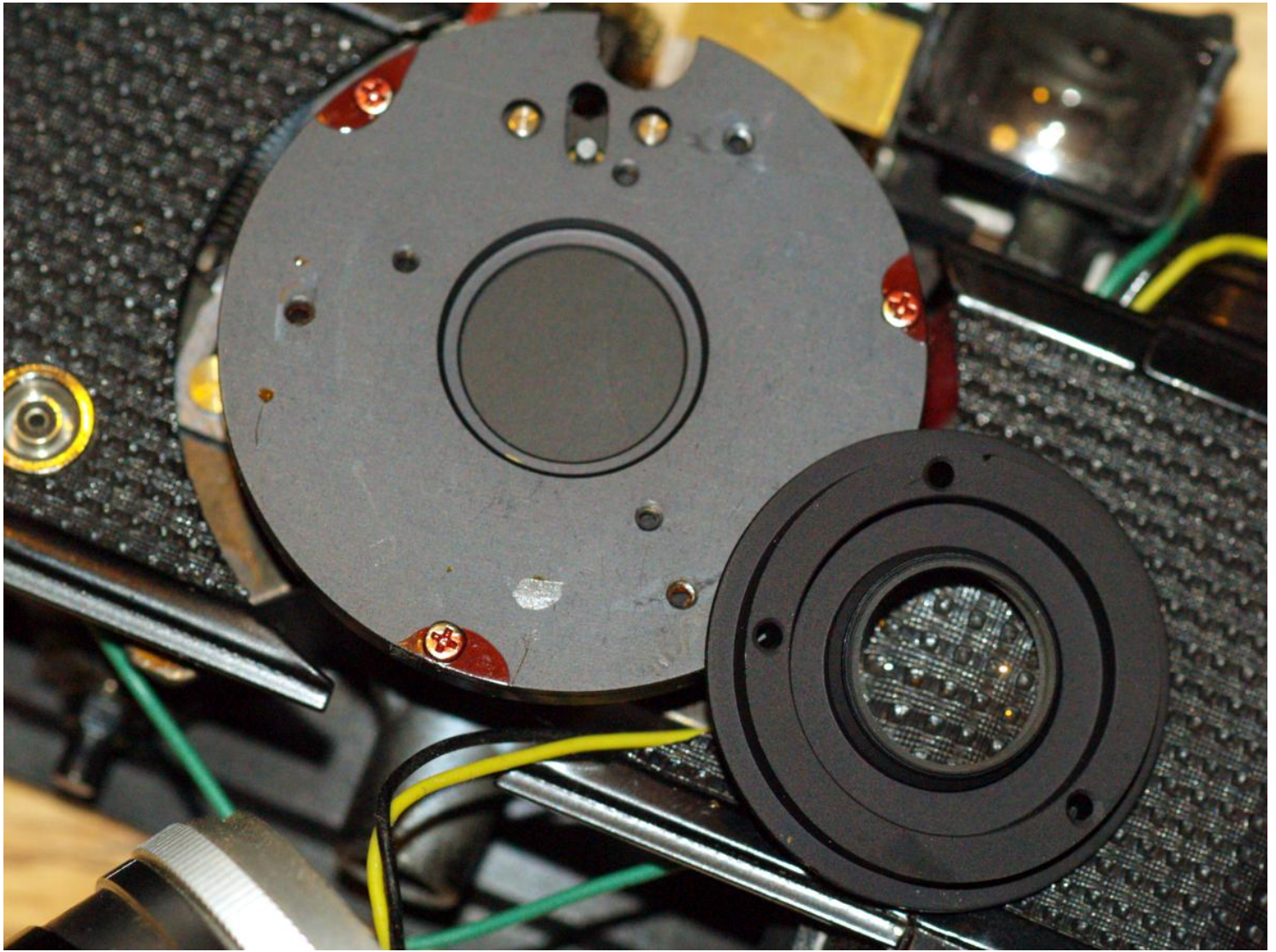
15. You're almost there. The aperture assembly is next. Remove the three screws that hold it in place. Clean it thoroughly in the lighter fluid. You may have to soak it several times. Work the blades back and forth. Make sure all of the old lubricant is removed. Dry the aperture assembly (a hair dryer works well for this). Lubricate the assembly with graphite. Be sure to get under and between the blades. Work the blades back and forth to spread the graphite. The blades should move smoothly with almost no effort or sticking. Blow off any excess graphite. N.B.: Do not use oil to lubricate the aperture. It will eventually gum up again, and oil inside the lens can cause other problems.





16. While the aperture assembly is soaking, remove the rear lens assembly and clean it.





17. The shutter assembly is next, but it is unlikely there is a problem with it. So you're finished! Just retrace your steps to reassemble everything, working your way backwards thru the cups in the ice cube tray. A little graphite between the aperture ring and the focus ring will make these move smoothly. Some graphite on the rewind shaft will work wonders, too. Always make sure to rub the graphite into the surface, then blow away any extra. Be sure to clean the viewfinder and the "Judas window" before replacing the top. You can put the cleaning cloth over a Q-tip to clean the inside of the viewfinder. And don't forget to position the front lens element per the mark you made in step "7", so the camera will focus correctly.

Now load it up with your favorite film and take some pictures!