

Converting Konica AR bayonet mount lenses to 4/3

The concept:

The Konica AR bayonet mount lens can be easily adapted to use on Olympus, Panasonic and Leica 4/3 camera bodies. The Panasonic cameras will also confirm focus with these Legacy lenses. The Olympus will have the advantage of image stabilization. The Panasonic Lumix L1 and its Leica sibling have a flat front which allows one to see the aperture scale and more readily turn the ring. You can also use this conversion and a 4/3 to m4/3 adapter on the new micro 4/3 cameras.



I will outline the technique I use; it is in my opinion the easiest conversion method that is still have a quality sufficient for longevity of the mount. We will be using one of the brass rings that I supply from my website. www.belerionbooks.com/konica.htm However any suitable spacer may be used.



Tools needed:

Before beginning we should gather together a few tools. These are recommendations and alternative methods will use different tools. These are what I have to hand and used. The most difficult thing will perhaps be drilling the small screw hole(s).

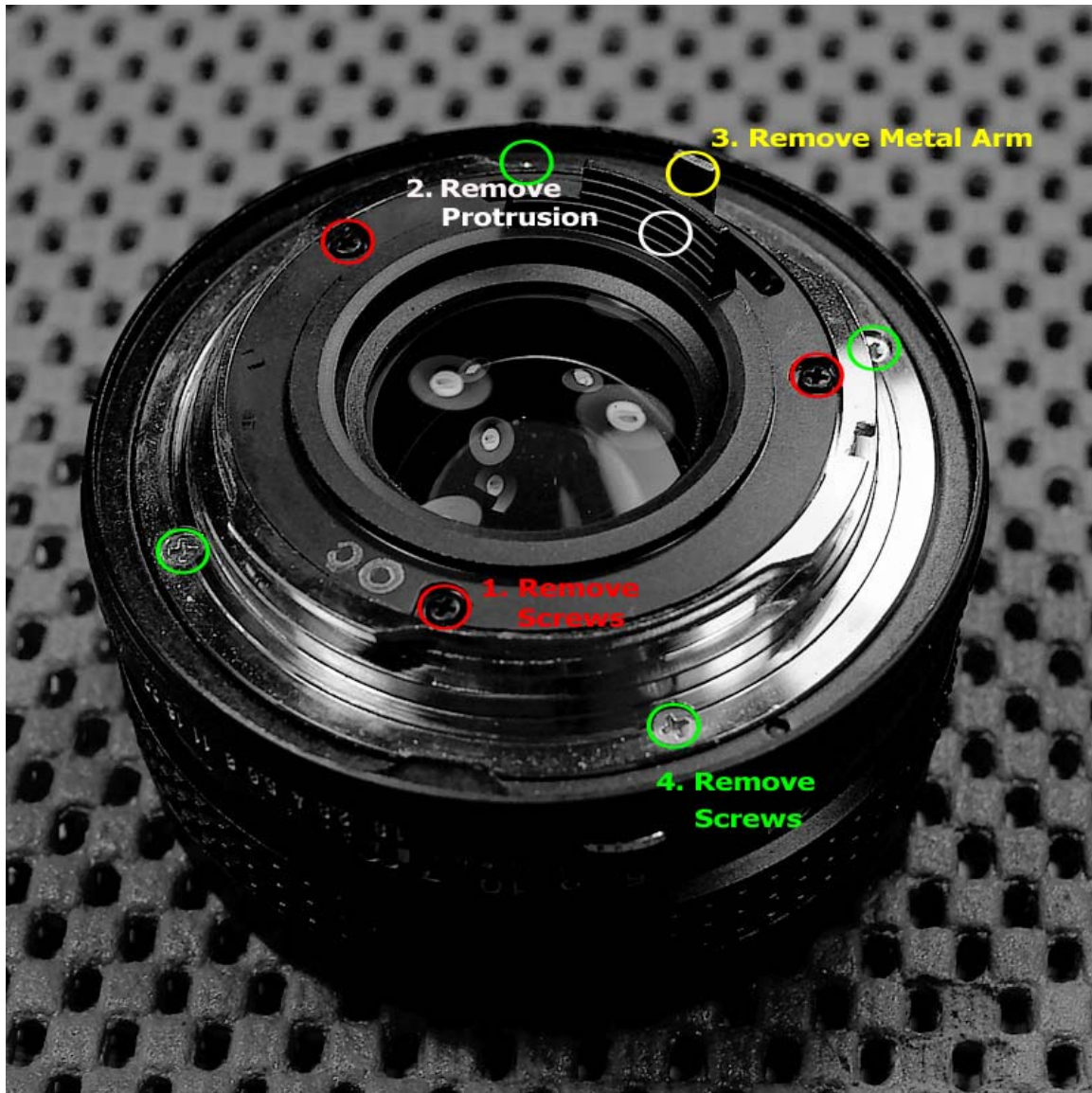
1. Precision drill press, hand feed drill attachment or small chuck for drill.
2. Drill bits, a micro selection is handy, you will need 1/16" or a #51 or a 1.7mm for the screw holes. You will also need to drill a slightly larger hole for the lock pin if you use a spacer without this pre-drilled. I use a 1/8" drill held in a pin vice as a countersink.
3. A jewelers saw or a metal nibbler for cutting the aperture tab notch in the spacer.
4. A set of needle files for fine work on the notch.
5. A fairly coarse bastard file and a finer one for thinning the ring if needed.
6. A Dremel tool or similar rotary tool and a selection of burrs and wheels.
7. Soft brush for cleaning parts to keep dust from machining entering lens or camera.
8. A small bench vice is handy.
9. A Phillips screwdriver size 00 (don't scrimp on the quality, better to spend a bit more for a quality tool.
10. A sharp machinist's scribe for laying out the spacer.
11. I like to use a magnetic parts bowl to hold all the screws, springs, bearings etc.
12. Good lighting is very important.

The procedure:

I shall be using the popular Konica Hexanon 40mm/1.8 Pancake lens in this example. Some lenses are easier and a few are more difficult to convert.



As you can see from the above illustration; the lens will mount the proper way up, just as it would on a Konica SLR.

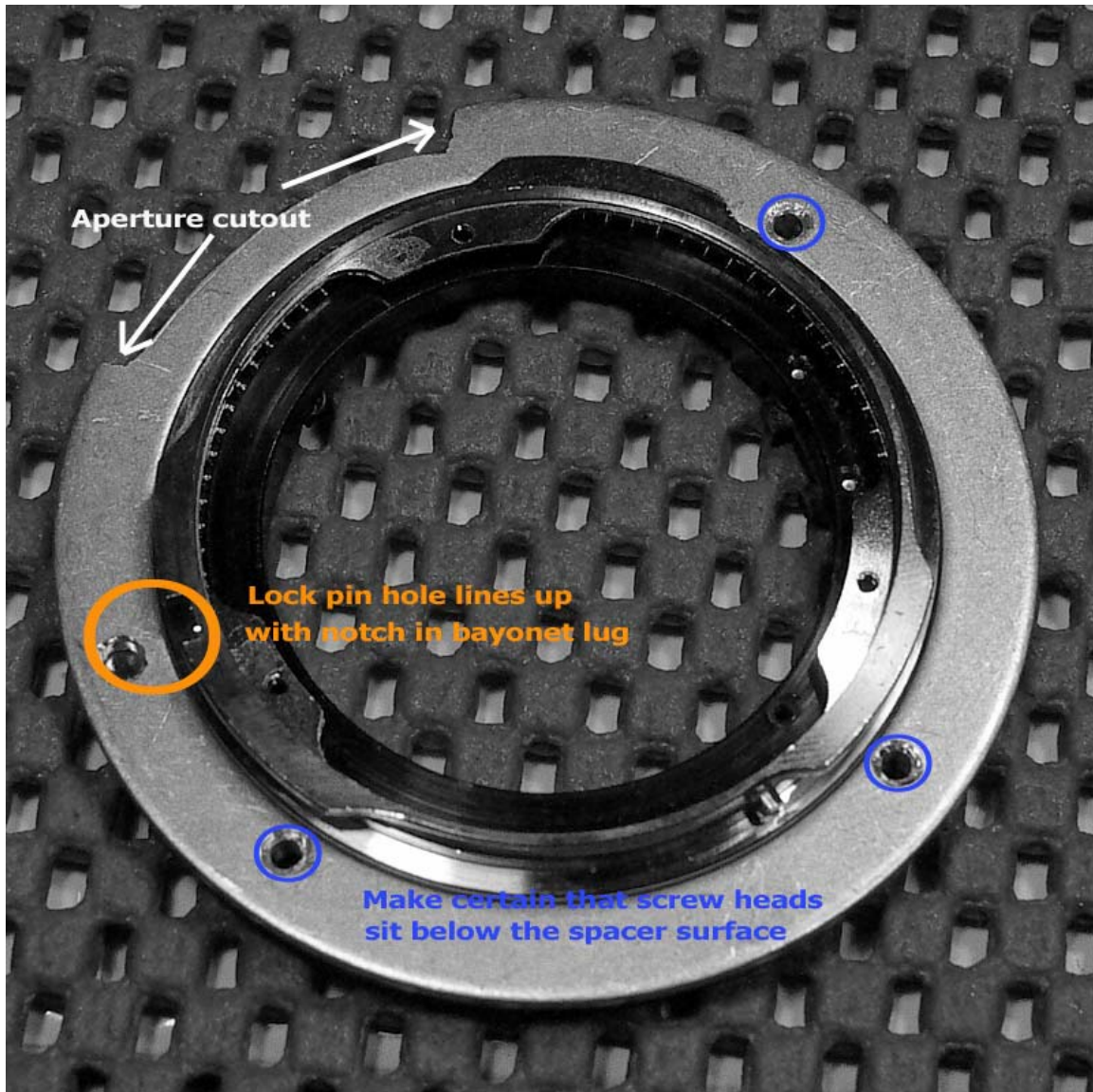


First remove the three screws shown in red above. Now remove the baffle (plastic on the 40mm, metal on some others). Now take snips or a saw and remove the protrusion shown marked with white, so that it is flush. Once the baffle is removed you can see the two screws holding the aperture arm, shown yellow above. Remove and discard these bits. Next remove the 4 screws marked in green above. Lift the lens mounting flange off and set aside.

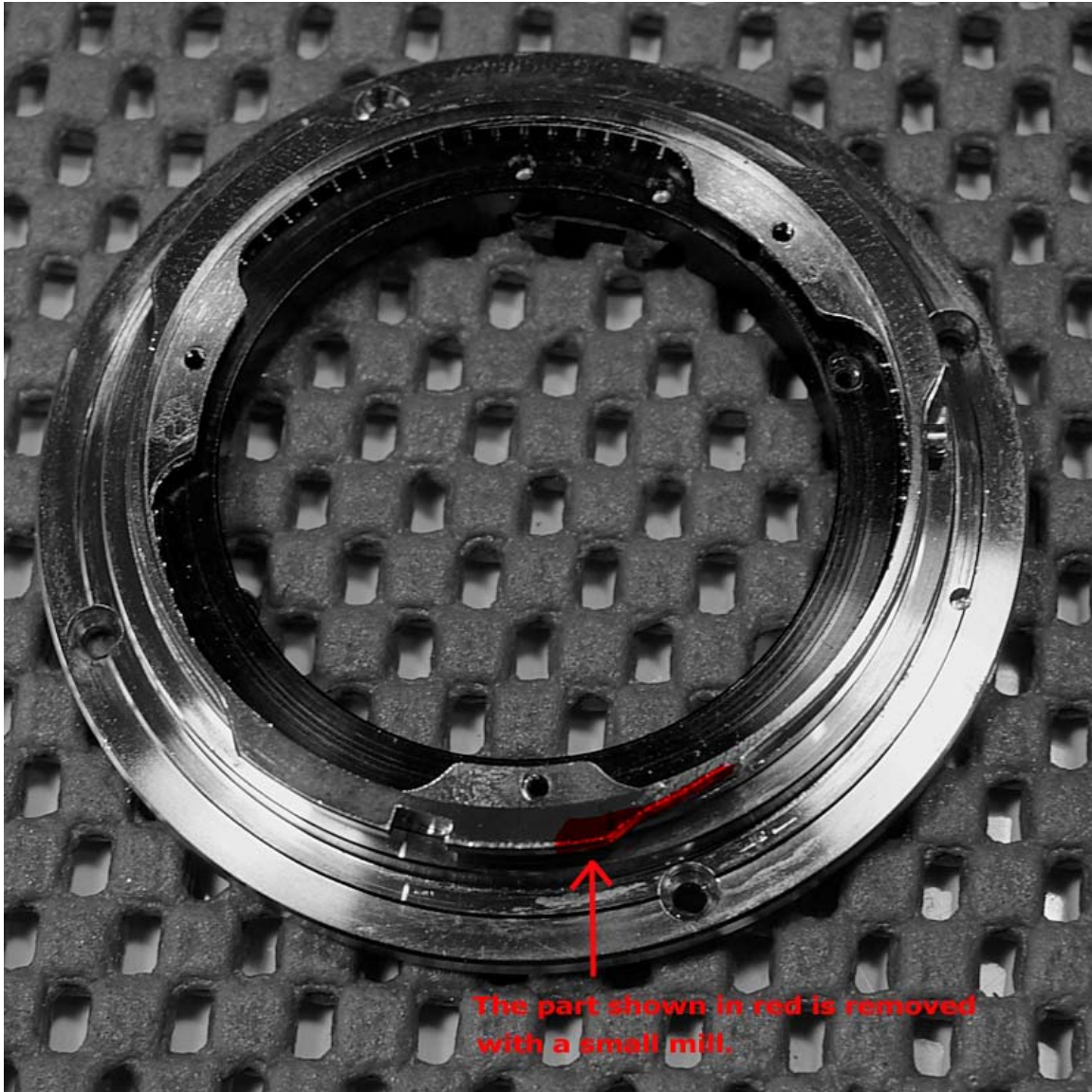
Caution needs to be exercised not to accidentally lift the aperture ring from the lens; if you do so you will likely lose the small detent ball bearing, as it will go flying. If you lose this, I can obtain spares for you. Otherwise you will lose the click stops of the aperture ring. Some people prefer not to have the clicks, but I like to count clicks so I know which aperture I am on without looking away from the viewfinder.



Shown above is the baffle, before and after modification. If doing a metal baffle you will have to prevent the metal from shorting the camera contacts, therefore it might be better to fabricate a plastic baffle from a suitable thickness plastic or card stock. It needs to be flat black to avoid reflections. If making your own baffle, better contrast can be achieved by making the hole in the baffle smaller; 17mm seems to work for the 40mm and 50mm lenses. Also on some of the conversions one of the screws may short the camera's contacts, check this carefully. If it does short the contacts, simply leave that screw out, two will be adequate.



Using the flange from the lens mark and drill the holes as shown above and cut the notch for the aperture tab. Make certain to countersink the screw holes so that the screw heads lie just below the surface of the spacer. Notice that the lock pin-hole (circled in orange) lines up with the notch in the longest bayonet lug. Not shown above, the brass spacer has had the inside diameter chamfered to clear the small step on the Konica flange. No need to be precise as long as it clears this step. You may need to still thin the brass spacer by a few thousandths of an inch, if so file the back side with a file as evenly as you can. Make certain to clean all parts of any fine filing dust. The aperture cutout should be made slightly shorter than the full travel of the tab in order to prevent the aperture ring being turned all the way to the AE or EE position. Set aside the completed spacer ring.



Returning our attention now to the flange. We will need to remove some of the longest lug, the one with the notch in it. In the illustration above this area is marked in red. As you can see I have already removed most of the material and will continue until just before the screw hole for the baffle. You can put some tape on the flange below this lug to prevent scratching the surface if you like. Go slowly and gradually sneak up on the finished shape. I use a small mill in a Dremel tool. Make sure there are no sharp edges using a small needle file. Once again thoroughly clean the part of all dust. Set aside the now finished flange.

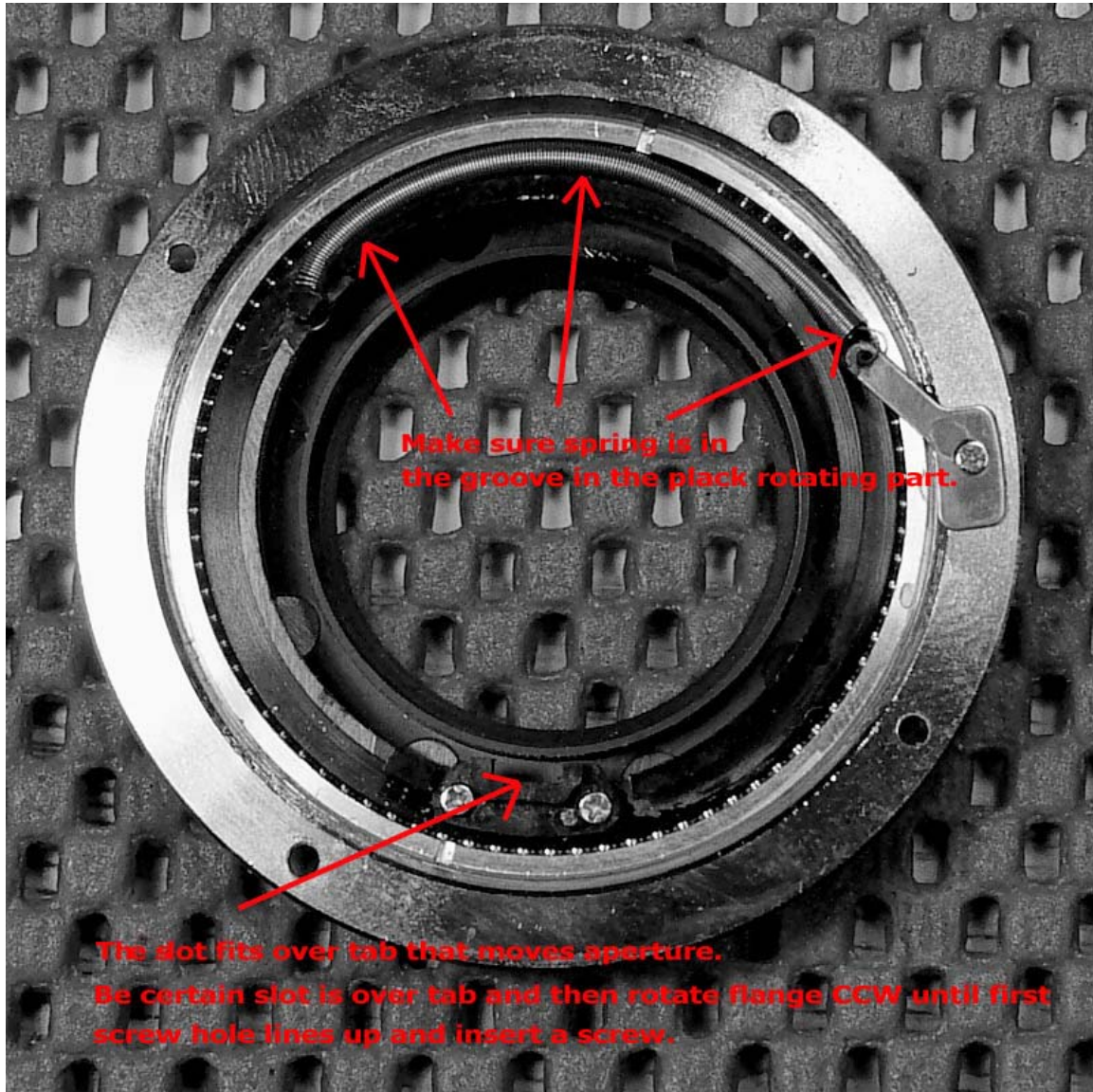
Next we shall need to obtain some 1.7mm screws, the ones I source are 10mm in length and we need about 7mm, so some needs to be removed if using the 10mm length. The old screws are too short. I use three screws per lens, replacing three of the four stock ones. You only need to use a single screw, but I feel three screws keeps the spacer nice and flat.

Below you can see three screws, the one to the left is the stock length, which is now too short. The middle one salvaged from an old camera is ideal, but of course if you need three you will have just two, if you need two, well just one will be available. Lastly the black screw on the right is the one that I can provide. It is 1.7mm thread by 10mm length. So use a cut-off wheel in a Dremel and cut it to length. Notice the head of the new screw is smaller diameter than either of the other screws. Unfortunately this is all I can source, so take care when countersinking the holes in the spacer. I use a 1/8" drill bit in a hand held pin vice, just a few turns does the job. Make certain the screw head is just below the surface of the flange.

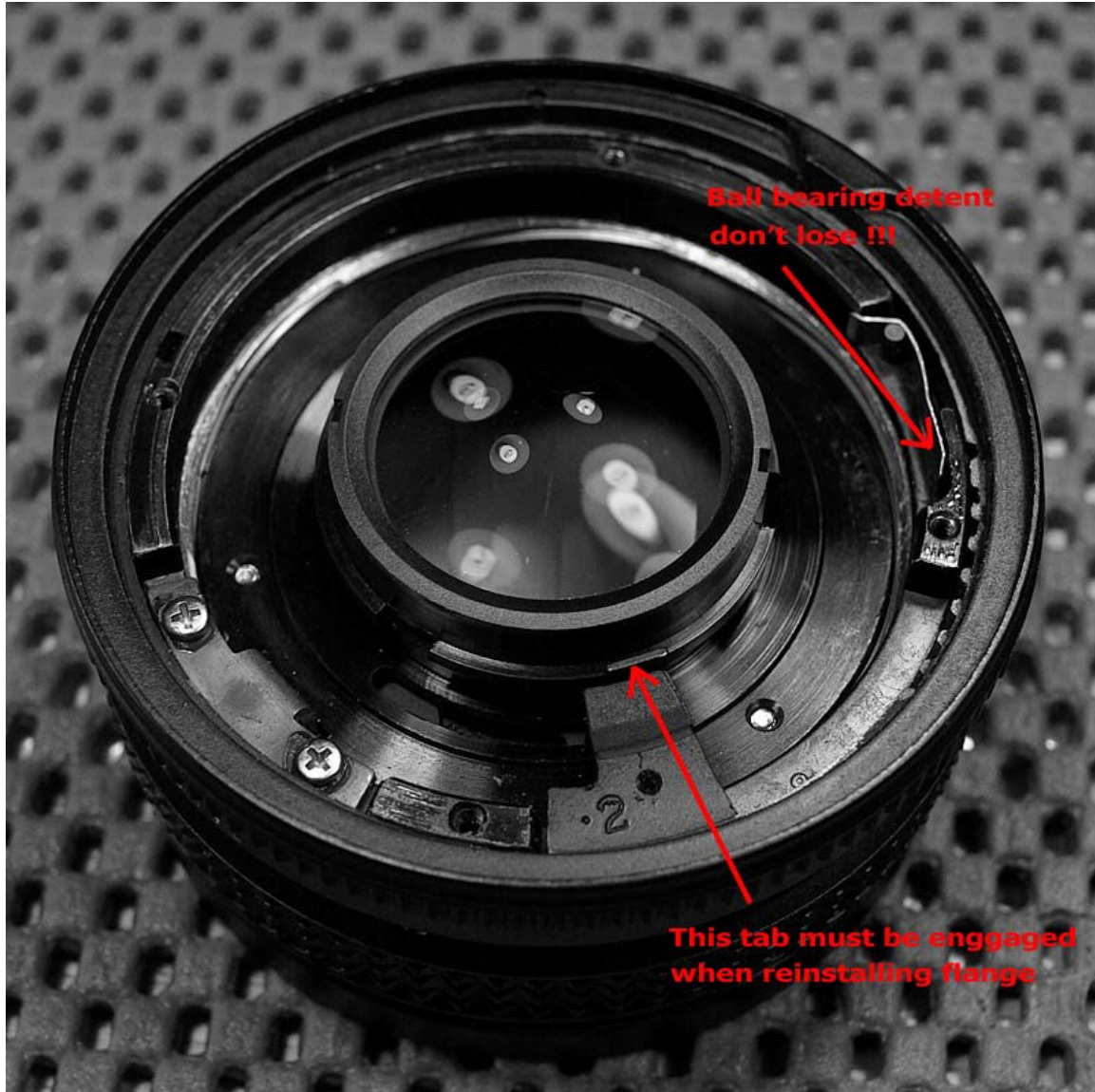


Let's take a moment to look at some of the parts of the lens prior to assembling our pieces, paying close attention to the notes in the photographs.

Firstly let's examine the rear of the flange.



Next examine the lens to which the flange will now mount.



Reassembling our pristinely clean parts is next. Firstly we want to place the modified flange over our lens assembly, being certain we engage the aperture arm in the tab on the flange. Next we will rotate the flange on the lens CCW until the first screw hole lines up. Quickly check that all the screw holes are aligned and put one factory screw in the hole closest to the tab on the aperture ring (just to the right of 12 o'clock in the illustration above).

Now we can place our finished spacer on the flange and screw it in place, being certain that the screws are tight and below the surface of the spacer, and that our lock pin hole is aligned with the notch in the modified bayonet lug.

Lastly we install our modified baffle.

To mount the lens we want to locate the bayonet lug on the lens with the notch in it and position that at the 2 o'clock position looking at the camera body. If our lug is sufficiently shortened the lens should drop into place. Now carefully rotate lens CW and you should feel the lock pin click into place. **DO NOT FORCE ANYTHING.** If the lens didn't turn smoothly remove the lens and make certain the spacer is not warped, make certain the screws are still below the flange surface. If both of these check out, then we need to thin the spacer a slight bit more. This means removing the three screws and filing the back side just a slight bit. The lens should mount smoothly once this is corrected. And our lens will be the proper way up. When removing the lens, only turn far enough to allow the lens to be removed; the factory lens will not turn too far, but the modified lens will.



That's it, enjoy your new lens.