

# MAMIYA RZ/RB LENS TRANSPLANTING INSTRUCTIONS

## **Tools:**

- Fine screwdriver kit
- Lens spanner wrench

## **Parts included in kit:**

- Top Ilex 3 thread adapter
- Bottom Ilex 3 thread adapter
- Press-on filter holder (only for RZ 180mm and 110mm lenses)
- Ilex No. 3 Shutter Plate

## **3<sup>rd</sup> party items:**

- RZ or RB lens from which to extract the glass elements
- Ilex No. 3 shutter (any Acme or Universal is fine except for Kodak-branded shutters, which are not compatible. Any Ilex shutter that has or once had a Kodak lens in it will not work.)

## **INTRODUCTION**

Mamiya RB67 lenses, which have mechanical shutters, can be adapted to mount directly to Mercury. To do so, you need an XL Focus Unit + an XL RB67 plate + a 10mm Front Spacer + a third party RB67 lens board. See the Mercury User Guide for more information.

Mamiya RZ67 lenses have electronic shutters, and cannot be used on a Mercury or any other non-RZ camera without transplanting the lens elements into a different shutter. Luckily, the Mercury RZ/RB lens transplanting kit exists. With this kit and an Ilex No. 3 shutter (either Universal or Acme, but not a Kodak branded one), you can transplant your RZ lens elements into a small, lightweight view lens perfect for Mercury use. You can also do the same with RB lenses, and this may be desirable in cases where (a) the shutter is dead and thus it is useless without transplanting, (b) you don't own a Mamiya RB camera and aren't interested in using one (they are extremely heavy and meant only for studio use), or (c) you want to make your lens and camera much smaller and lighter. This process works on most RZ and RB lenses, but note that we have only tested four that are particularly common or desirable to transplant: RZ 110mm f/2.8 (Mamiya's top of the line 6x7 lens), RZ 180mm f/4.5, RB 127mm f/4.5 (extremely common and inexpensive), and RB 250mm f/4.5. The RB Sekor C 180mm would be desirable to transplant, but we haven't tested it.

Kit Contents: Your kit comes with two thin plastic threads, one slightly taller/deeper than the other, one shutter plate or XL lens barrel, and sometimes (in the case of the first two RZ kits mentioned) a

press-on front element filter holder. Your kit also comes with standard mounting hardware for your Ilex No. 3 shutter. You must purchase the Ilex No. 3 separately.

## TRANSPLANTING STEPS

1. You must partially disassemble your RZ/RB lens to extract its two lens elements: the front element and the rear element. These are the only actual lens components. The rest is an elaborate, massive lens barrel and a shutter. The two lens elements are threaded into the shutter (one into the front, one into the back). Every RZ/RB lens has a different procedure for disassembly. You can either find instructions or a Youtube video online that shows the process, or just "feel" your way through it. For the most part, you can't go wrong: just take out every screw you can find until enough parts have been removed that you can get to the lens elements. Once you can get to them, you just unthread them from the internal shutter. It is not necessary in most cases to actually go so far as to remove the shutter from the barrel assembly, but you can if you wish. Note that the front and rear lens elements can be threaded by the factory *very* tight, and it can be difficult to get a tight enough grip to loosen them.

2. Once your lens elements are free, thread a Mercury thread adapter onto the threads of each. The two thread adapters are identical except that one is slightly shorter than the other. Thread the shorter one onto your front lens element, and the taller one onto your rear lens element.



3. Now thread your lens elements into your Ilex No. 3 shutter (after removing the existing Ilex lens elements, if there are any present). Thread them to "light finger tight." Do not overtighten them. If you find that your shutter blades aren't opening and closing properly, it is a sign that your front element

may be threaded in too tightly. If your aperture blades are locked and barely move, it is a sign that your rear element is threaded in too tightly.



4. If your kit includes one, now press fit your filter holder onto the front element of your lens. Note that this is not necessary for most RB lenses. RZ lenses, and late model RB lenses, however, do not contain filter holders on the front lens element itself, necessitating the Mercury part if you wish to use filters. The Mercury filter holder is threaded for 49mm filters or lens hoods. The first time or two that you thread something into it, it may give resistance.



5. Thread your Ilex shutter into your Mercury mounting parts (either a shutter plate or an XL barrel, depending on the lens). Remove the Ilex shutter's retaining ring or flange first, as it will get in the way, and isn't used when mounting an Ilex No. 3 on a Mercury.
6. Note that your aperture scale will likely be inaccurate. We have experimentally produced a scale aperture scales for the RB 127mm and the RZ 110mm. You can download these from [www.mercurycamera.com/downloads](http://www.mercurycamera.com/downloads) Print them out, cut them out, and glue them onto your Ilex shutter. The gray lines on either side of the scale are meant to align with the Ilex's aperture indicator at the two extremes of its travel.



For any other lens, you will need to experiment to determine aperture marks. A digital or Instax back makes this rather easy. You can also temporarily attach your lens to a digital camera (using a box or tube between them). You don't need to produce sharp images. Just shoot a gray card or other neutral object at full aperture, then progressively close the aperture until your digital camera has halved its shutter speed. That will be one stop closed from full, etc. If you do this, marking on a piece of tape stuck on your shutter, please scan it or send it to Mercury Works so we can create an official version for you and future users. As our thanks for you calibrating the aperture on a new lens, we'll send you the official version, printed on vinyl.