

~Camera Light Seal Replacement Basics~

Please read these instructions thoroughly and take your time...this isn't a race, and familiarity is your friend. Years of personal experience, knowledge, and helpful tips are condensed into these 4 pages, and I've tried to keep it as logical and easy as possible. First, look at your camera to see how the manufacturer's original seal was installed and where. Make mental notes, and if necessary draw a sketch. Your old seal material will be a gummy, gooey mess. The obvious places to look are the long slots on the top and bottom of the door openings, the hinge side opening and the latch side opening. The seal may be on the camera body or on the door itself. If your camera is an SLR, it may also have a mirror damper. Let's start at step **one**—prepare your work area. I use a piece of cardboard (about 1.5' x 1.5'), but you can also work on newspaper or fiberboard. Mainly, protect the surface beneath you. Always work under good light.

Two—get your tools ready. You'll need: the little bamboo tool I sent you, maybe a small screwdriver, a hobby knife (like an X-Acto knife), a safety razor blade, a paper towel or two, some naphtha (lighter fluid is the same thing and denatured alcohol is also excellent), a metal ruler or straightedge, a piece of wood, masonite, or heavy cardboard to cut on, a small paintbrush and a pair of scissors. If you need a tool to scrape with, a wooden ladies cuticle tool is very handy. A pair of tweezers is also very good to have...either metal or plastic is fine. You shouldn't need any glue.

Three—think positive thoughts and remember knowledge is confidence. You'll need your finest mental powers—concentration, observation, memory, patience, judgement...avoid distractions.

Four—how to cut seal material: Lay it on a piece of fiberboard, wood, Masonite or heavy cardboard with the backing paper side facing upward. Please protect the surface underneath you! Place your ruler (straightedge) on top and hold it steady, revealing the width of strip you need. Using a sharp hobby knife or a **sharp new** safety razor blade, cut the strip (holding the blade so that it is perpendicular to your cutting surface). For curved or odd-shaped pieces, use sharp scissors. You can always cut the first piece (a template) out of paper to make sure you're on the right track...it saves wasted material.

Five—observe common safety precautions. You'll be working with sharp blades and flammable solvents. Don't cut yourself, follow the precautions on the cans, and don't leave sharp blades where you or someone else could be hurt by them. A little common sense goes a long way.

Speaking of safety, here is something important...When working in the mirror area of an SLR camera, please remember some **essential** things:

1. The mirrors are always **top-plated** (for focus accuracy) and can easily be scratched. If you need to clean one, do it ever-so-carefully with the least amount of pressure possible and a soft, lint-free cloth like an old pair of men's cotton jockey shorts or a cloth diaper...and Windex works fine as a cleaner. **Use no more pressure than you would use if you were touching your bare eyeball with your finger.** If old seal material has stuck to the front edge of your mirror, you may use naphtha or denatured alcohol to remove it...use a Q-Tip and almost no pressure. **Let the solvent do the work.** A micro-fiber cloth is good, also.

2. The focusing screen must not get dirty, either. I have seen people try to place paper, tissue, other things to the mirror and screen to prevent them from getting dirty, but I **don't** suggest this—stiff paper can scratch your mirror and get in your way while you are working. Also, paper on your focus screen gives a false sense of security and can trap bits of gooey old foam underneath, smearing it on your screen. I believe the professional way is to simply work **very** carefully and slowly, and remove any dirt or "junk" as you go. A sharp pointed X-Acto blade is great and a pair of tweezers is perfect for this. Also a Q-tip can be used—the cotton fibers will pick up bits of trash and hold them. Use your small paintbrush to remove dirt or debris as you work. Be careful, methodical and use your powers of concentration and patience. Do not rush yourself.

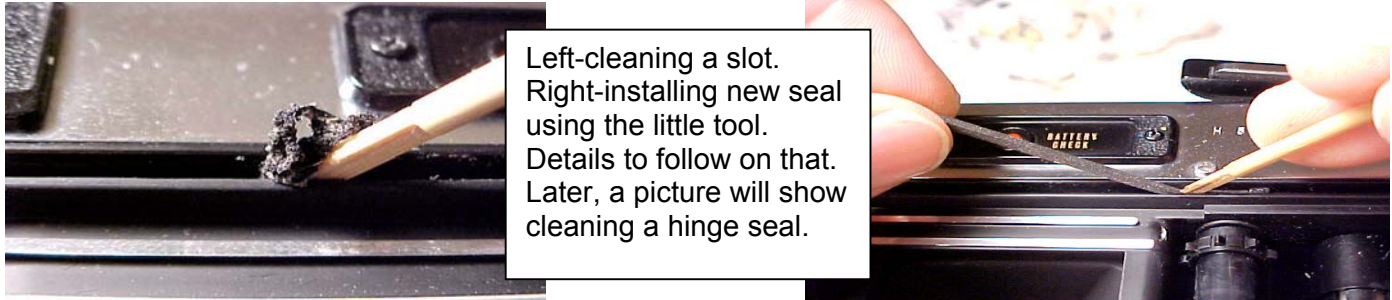
3. **DO NOT USE ANY SOLVENT** near your focus screen. Many were plastic or laminated glass, and solvent can ruin them or make a large mess. Remove seal material slowly with a knife and tweezers.

4. **What is the mirror damper, anyway?** Primarily a sound deadener, secondarily a light seal. Want to know if it is sealing? Remove your lens and hold the viewfinder opening next to a bright light in a dark room so the light enters where you would normally look through to focus. With shutter on "B" setting, press and hold the shutter open. If you don't see light around the mirror, there are no leaks.

Okay, back to step **six**—copy your old seal and cut the new seals. Your door rails will normally seal best with a non-adhesive strip 2mm wide, although some cameras will use seal foam attached to the door. If your camera uses the long thin strip method, the seals you use should be just slightly wider than the slot they fit in...and **please** install them **without** adhesive. They'll last longer and do a better job of sealing that way, **plus the end product is more professional and easier to install by far.** Hinge and latch end seals are

not generally too complicated, and mirror dampers aren't either. The main thing is to observe and measure carefully and choose the seal material you think will do the best job for you—later, I'll show you an easy and professional way to know the thickness you need. I decide what foam to use based on what was there and how it looks like it was designed to work.

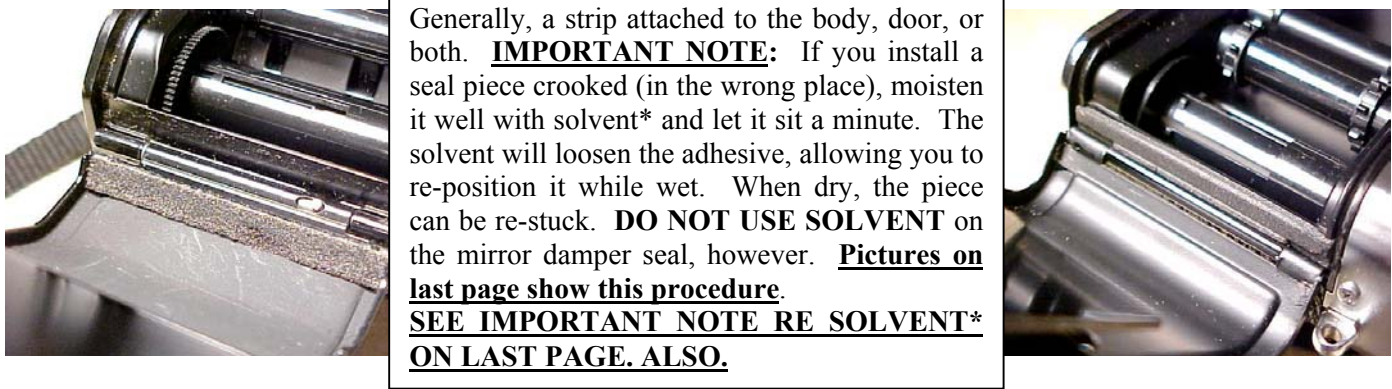
Step **seven**—remove your old seal. Normally I use the bamboo tool or a toothpick and a piece of paper towel with some naphtha (or denatured alcohol) on it. Run the tool down the slots. Take a look:



Left-cleaning a slot. Right-installing new seal using the little tool. Details to follow on that. Later, a picture will show cleaning a hinge seal.

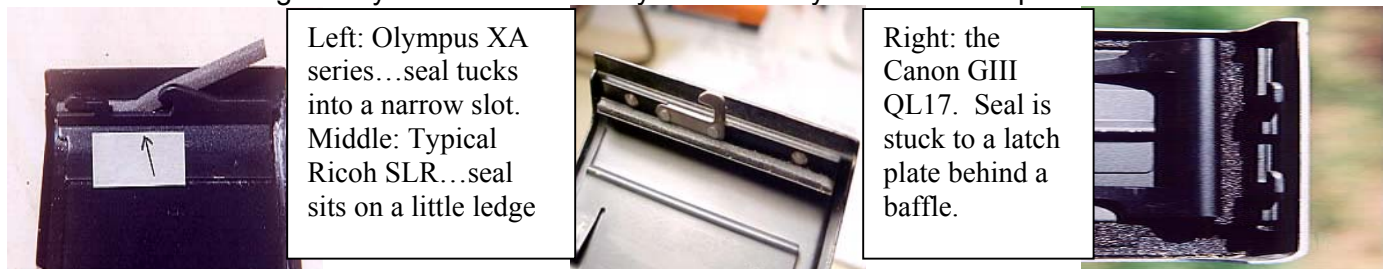
The old seal will come out in a gummy glob. Use the paper towel & naphtha to keep the tool clean, and when the old goo is removed, clean the slots with a paper towel moistened with solvent. Don't forget to clean the edges of the film door...they will normally have gummy residue on them from the old seals, and you don't want this fouling your new seals. Other than the rail slots, you may use a wooden or plastic scraper, the wide end of the tool I sent you, small hobby knife or small screwdriver to remove old seal material. Be careful and work slowly. Tweezers are handy. Use your screwdriver or a dropper bottle to drop a little solvent on the seal material you're removing. You don't want the solvent running all over the place, just enough to soak and loosen. Be patient. The solvent will loosen the old material if you let it.

Hinge end seals: These are usually simple and found in almost all cameras. Here are a few examples:



Generally, a strip attached to the body, door, or both. **IMPORTANT NOTE**: If you install a seal piece crooked (in the wrong place), moisten it well with solvent* and let it sit a minute. The solvent will loosen the adhesive, allowing you to re-position it while wet. When dry, the piece can be re-stuck. **DO NOT USE SOLVENT** on the mirror damper seal, however. **Pictures on last page show this procedure.** **SEE IMPORTANT NOTE RE SOLVENT* ON LAST PAGE. ALSO.**

Latch end seals: Occasionally more elaborate than the hinge end seals, and other times not used at all. This depends entirely on the maker/designer of the camera. Your power of observation (and your creativity) can be vitally important here. Sometimes you will be able to duplicate a latch end seal easily. Other times, it may be more challenging. Remember your seal material may be cut, shaped, laminated, folded over, etc, and latch end challenges may be handled in many different ways. A few examples:



Left: Olympus XA series...seal tucks into a narrow slot. Middle: Typical Ricoh SLR...seal sits on a little ledge

Right: the Canon GIII QL17. Seal is stuck to a latch plate behind a baffle.

SLR Mirror pads: The main two things to keep in mind are to carefully duplicate the replacement seal you need and **carefully** remove the old seal. Sometimes the mirror damper is nothing more than a simple strip

of foam mounted where the front edge of the mirror will land on its upward journey. Other times you will see foam extending partially or completely along the sides of the viewing screen, and occasionally you'll see two pads on each end of the mirror. Sometimes a thin baffle will sit in front of the focus screen, making access challenging. Tweezers are handy for removing old material and replacing the new seal. Let's look at two examples of mirror pads:



Left: Fujica ST605n. Damper extends around the focus screen. Hint: just replacing the damper pad on the front edge will generally suffice. Right: Yashica SLR. Easy and sensible. **NOTE:** Some Minolta X series SLRs used a high-quality felt damper. This lasts a long time, and I don't suggest replacing it.



How do I Know What Thickness of Seal Material to Use?

Good question! The long thin slots all use the 2mm pre-cut strips. For the hinge or latch end, here's an easy way: First, get a wee bit of modeling clay the size of one grain of rice...children's clay is perfect for this. Second, cut a small piece of waxed paper (about ½" square) and fold it in half. Set the piece of clay inside the fold. Place this in the cleaned area where your new seal will be and close and latch your film door. When you open the door, you will have the thickness preserved, and the waxed paper will prevent the clay from sticking to the camera. Pictures of this are on the next page.

Installing new seals: once you have cut your new seals to the size and shapes you need and cleaned the mounting surfaces, this is not difficult. For seals going into thin long slots, I put them carefully into their grooves, making sure they don't twist over in the process...remember, no adhesive is needed with my unique design (install shiny side up). You received a handy bamboo tool in this kit...the thin end may be used to press and guide the seal into the slot (as in the picture you saw earlier). After you have the seal in place, trim the ends to fit and tuck them in. Neat and easy! On the hinge end, I usually butt the seal up to the hinge itself and don't let it overlap the ridges of the long rail grooves, as this can make closing the door difficult and will reduce the seal's effectiveness. On the latch end, the same rules apply. For the mirror...use the proper width seal (too wide will obstruct the viewfinder). Remember: keep it neat and clean and work carefully—tweezers are handy for placing/installing the mirror damper foam. If **you lick the adhesive** or wet it with a bit of naphtha, it delays the adhesive to allow you to re-position the seal.

Some important information about the seal material in your kit

You have non-adhesive 2mm strips for use in the film door slots, as previously explained. You have five sheets of open-celled OEM style foam (1, 1.5, 2, 2.5 and 3mm). While the two thicker sizes of open-celled foam are normally used as mirror dampers, they may be used for other seals (like film canister window seals). The open-celled foam is a dark charcoal color. If you need to make it black, use a black felt-tipped permanent marker to color it after the piece has been cut. You also have two pieces of fabric seal material (1mm and 1.6mm). This is normally used for hinge end and latch end seals. **Be careful not to stretch it once the backing paper is removed**, as it will change dimension. To minimize shedding of 1/16" fabric seal, spray with a little hairspray before cutting. (not too much) The material in your kit was carefully selected and produced to provide the ultimate in sealing capability, long life, resistance to environmental pollutants and ease of use. The adhesive on your material is the strongest available. To start release of the backing paper, use the edge of a razor blade or the sharp tip of a hobby knife to carefully pick up a corner...**see photo below. It is too strong to pick off with a fingernail, and trying this may cause damage to the foam and be frustrating to you.** If you have questions, need more guidance, or want to order more material, I'm always happy to help: Jgood21967@aol.com or Jon_Goodman@yahoo.com. If you need a larger kit or a more comprehensive booklet, please buy my Master Light Seal Kit on E-Bay, or ask me about it via e:mail. Thanks for your business! All instructions, educational material and pictures copyright protected with all rights reserved.

An Important Message:

I've provided the best of seal materials in many thicknesses, styles and what I believe are innovative and time-saving approaches. In the re-sealing process, your judgement and your opinion is important. You may find you prefer to use a different material than I might suggest or than the camera maker used. Please remember: Proper thickness is more important than style of material. If you have questions regarding use or selection of any of the materials, please contact me. If you have suggestions or ideas, I welcome them.

Here are a few more photos of camera seal replacement for you...

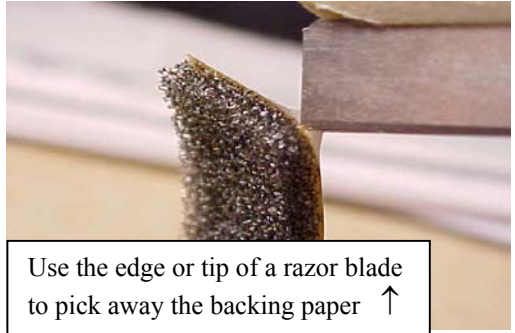
Removing Yashica damper pad. Ricoh mirror damper, replaced. Starting the release of backing paper.



Careful, neat professional work... ↑



Like-new results! ↑
😊



Use the edge or tip of a razor blade to pick away the backing paper ↑

Using tool on hinge end seal. Seal is crooked. Apply solvent* (See note). Let it loosen and re-position.

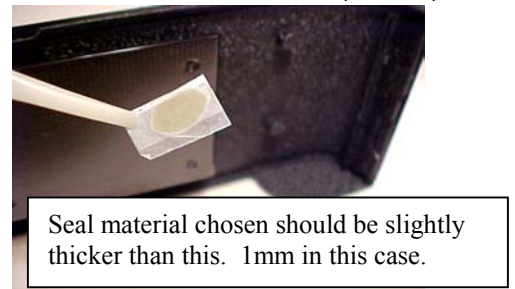


Moisten completely with solvent* and let sit for 1 minute or more. ⌚



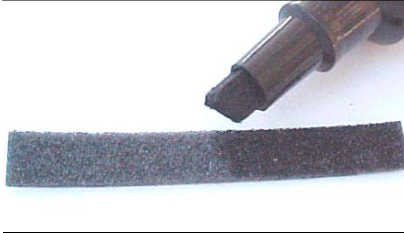
Re-position (while wet) and press down (when solvent is dry).

A bit of clay in wax paper is placed in the hinge seal area. Door is closed. Proof of thickness (<1mm)!



Seal material chosen should be slightly thicker than this. 1mm in this case.

Want your foam to be really black? It is easy! Use a felt tip marker. ↓



Do you want specific instructions for your 35mm camera? Maybe I have them, and I'll gladly e:mail them in pdf format if I do. Here is a partial list of the ones I've written so far: Canonet (GIII QL17 style), Olympus XA series, Olympus OM-10 & OM-2 type, Petri Racer, Canon AE-1, Minolta Hi-Matic full size, Minolta Hi-Matic F, Nikon EM and FM series, Yashica Electro 35, Yashica FRII, Minolta SRT series (SLR), Fujica AX-3, Lynx 5000. More are being added as time allows.

~~Lick Your Light Seal Fears Forever!~~

Yes! Licking the adhesive side of your light seal material will delay the adhesive and give you a few minutes to position the piece where you want it. In addition, it will keep the adhesive from sticking to your fingertips! Work like a pro!

***note:** if re-locating open-celled foam, use only naphtha (or other solvent which you have tested). Denatured alcohol (and other solvents) can cause this material to change dimension or ruin it!

Jon Goodman, 2004