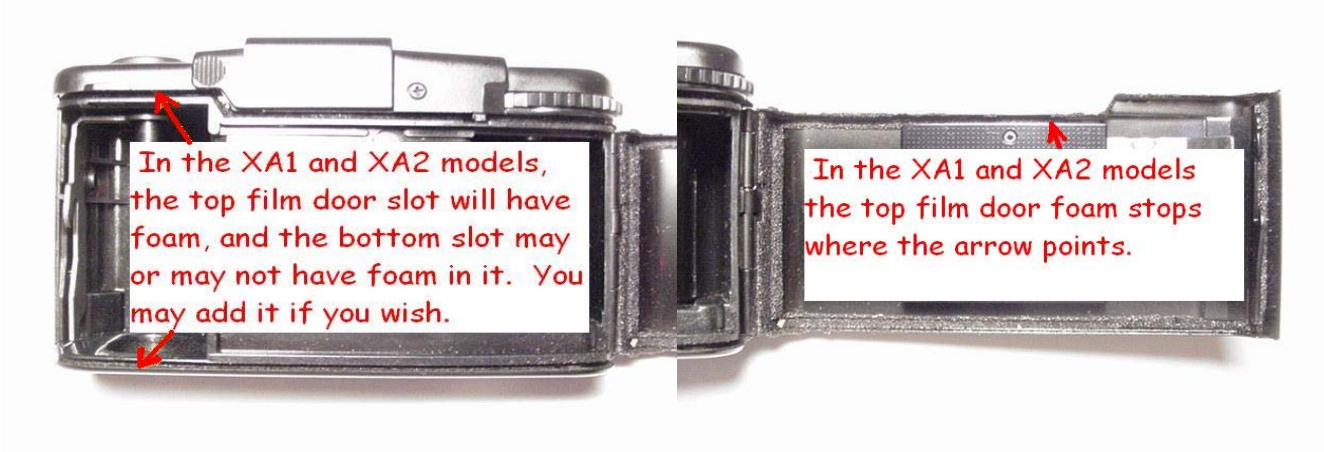
ProSeal Instructions for All Olympus XA style Cameras

Please read these instructions completely before you start. Knowledge will increase your confidence, and like most jobs, this is better done right the first time. I've tried to keep things as easy and logical as possible while still providing a great amount of detail for you. Sealing your camera is one of the best ways to restore it to like-new performance, and these are excellent cameras. You have been given this set of instructions for any of several reasons. You should have already read and understood the general directions which accompany my light seal kits.

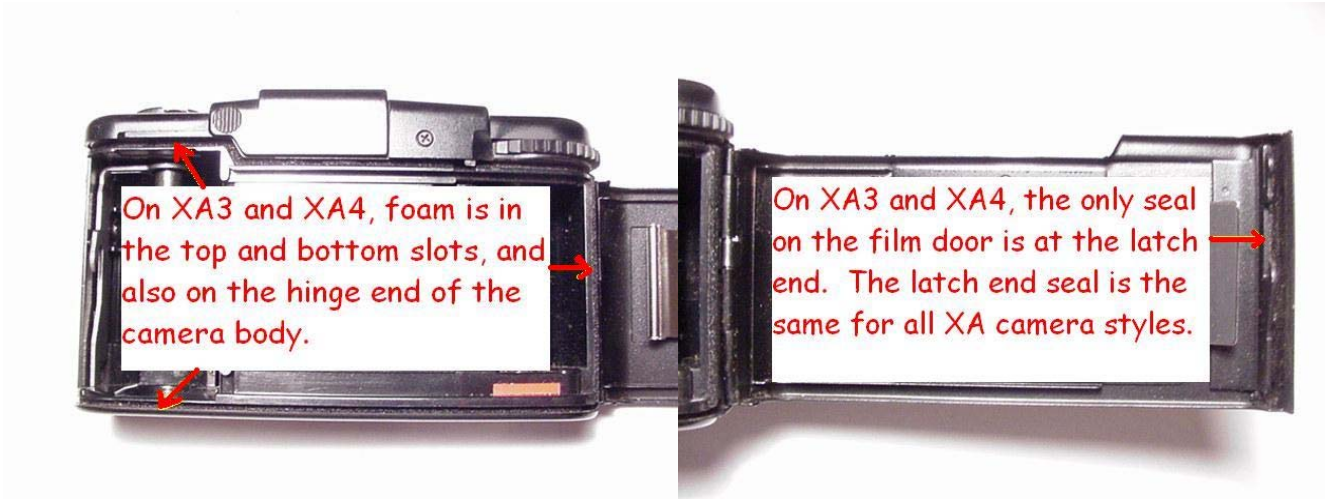
You may need: (1) a safe surface to work on—cardboard, fiberboard, newspaper or anything else handy—it is important to protect the surface beneath you. (2) Solvent. Naphtha (cigarette lighter fluid) or denatured alcohol are my two favorites. (3) 2 or 3 paper towels. (4) some toothpicks or your bamboo tool—a wooden cuticle stick is also handy. (5) a safety razor blade, hobby knife, or small scissors and a metal straightedge. (6) a small screwdriver (7) a pair of tweezers. Now, let's discuss the differences between the different XA styles. Please understand it is not uncommon to find variations of light seal design or application within the same style. The images below represent what I've observed as the <u>most commonly occurring</u> light seal architecture within each XA model style or group:

~~XA Model~~

~~XA1 and XA2 Models~~



~~XA3 and XA4 Models~~



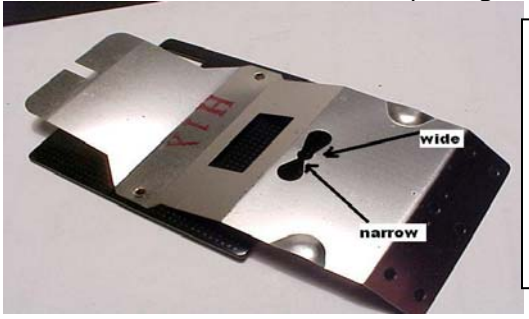
As you can see above, the differences in the XA, XA1 and XA2 are relatively minor. Your XA2 may or may not have seal material in the bottom film door slot (but you can add this if you wish). The XA may have seal material running along the top side of the film door all the way to the end of the door, or it may be like the XA1 and XA2 and this seal may stop around the film pressure plate. If you want to duplicate the "full door seal" design used in the XA for the XA1 or XA2, please feel free to do so. The design of the XA3 and XA4 cameras was completely different. There is a hinge end seal on the camera body, but not on the film door. Both upper and lower body slots are sealed, and there is no seal on the camera's film door…except for the latch end. Please note the latch end seal is the same for **all** XA styles.

~~What Kind Of Seal Material Should I Use?~~

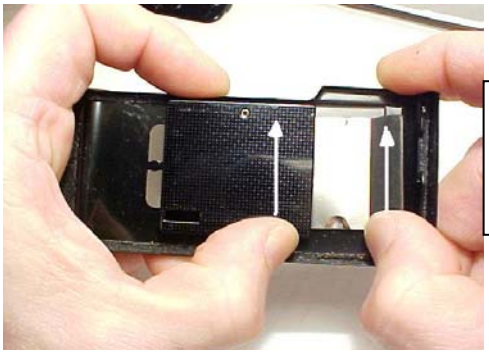
The Olympus XA cameras were designed with very close and precise tolerances. It is important to respect those tolerances when choosing a seal material. You may use 1mm self-adhesive fabric, 1mm self-adhesive foam, but please do not exceed a thickness of 1mm with any style of material in the XA, XA1 or XA2. In the XA3 and XA4, the hinge end seal should be 1.5mm thick. If this is unclear to you, please contact me (Jon_Goodman@yahoo.com) with your questions before you go any further. See the end of the instructions for an interesting demonstration…

~~A Special Message for XA, XA1 and XA2 Owners~~

At this point, I want you to consider removing your film pressure plate. If you have the XA3 or XA4, please **IGNORE THIS SECTION**. But for you others, here is how to remove it: With a thumb on the bottom edge of the pressure plate and another thumb on the film canister tab, press upward gently until the plate clip frees itself from its retaining button. You will feel a little "click." Now, lift up slightly and slide the rear tab off its retaining button.



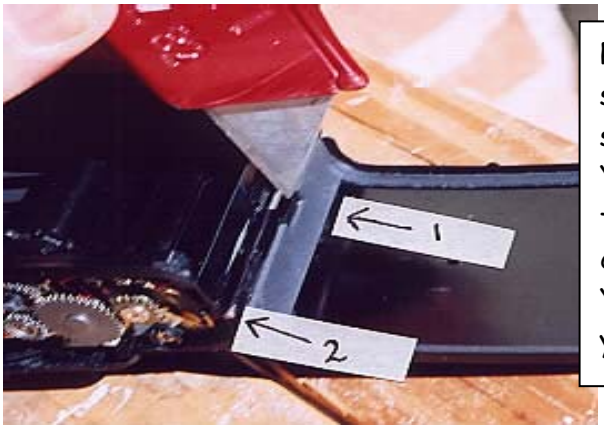
Notice the "hourglass shape" in the metal. The retaining tab can only slide in one direction (toward the wide end), because the other passage is too narrow. Small indentations (dimples) in the metal hold the plate suspended above the film door's surface. **THE XA3 and XA4 pressure plate should not be removed**.



To the left, a visual example of how I remove the pressure plate in the first series XA models. Gentle pressure until you feel a "click." It will replace in the opposite fashion.

Now, if you have model XA, XA1 or XA2 and you want to go one step further and remove the film door entirely, here's how I do that: First, look at the bottom plate of your camera…

(1) remove battery cover and batteries and set aside (2) move lever to "self timer" and remove all 5 phillips head screws. 3 are long and 2 are short. You can see where they go. (3) carefully lift up on the bottom plate using your fingernail to pull it up near the lever. It may be resistant, but if you're patient, it will come off.



Remove the carrying strap, revealing the stainless steel rod (arrow number 1). Using the edge of a small knife, catch the rod and slide it downward. You should see the metal rod start to slide out of the bottom hinge (arrow number 2). When you can catch this rod with a small pair of pliers, slide it out. Your door will now come off easily, and to replace, you will simply reverse this process.

(you may also remove the door of the XA3 and XA4, but unless you need to repaint the door, I seldom find this necessary)

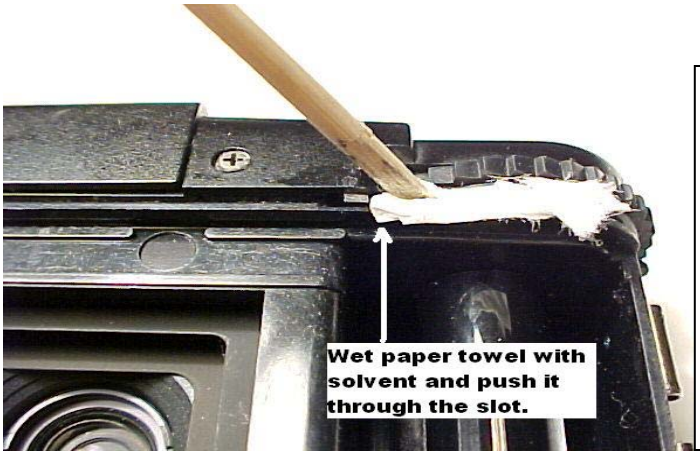
Okay, now let's clean your camera. Take your small screwdriver or an old dropper bottle and use it to carefully drop naphtha (lighter fluid) or denatured alcohol on the areas that have seal material attached. Please remember your camera's body is plastic…some solvents <u>will</u> damage plastic, so <u>never</u> use solvents like acetone, MEK, toluol, fingernail polish, etc. I normally drop enough solvent on the old seal to saturate it. Let this sit about 2 minutes and then begin scraping it off. You may use a toothpick with the end broken off, your bamboo tool, or a wooden cuticle stick. Work carefully and try not to scratch the painted surface. In some cases you may find the adhesive doesn't turn loose easily. It may take the paint off with it (see picture below). If this occurs, you may touch it up with semi-gloss black paint and a small paint brush, or you may re-paint the inner door with the paint I mention in "notes." The main thing is to be patient and give the solvent time to dissolve and loosen the old adhesive. **<u>IMPORTANT NOTE: Observe the precautions on the solvent. Work in a well-ventilated area and avoid too</u>**

much skin contact or contact with eyes, and don't drink it. After you clean the old seal from the film door, you'll need to also clean the old foam off at the latch end seal. This is done the same way. I run a toothpick or bamboo skewer through this channel, and sometimes I will use tweezers to lift old material away, too.

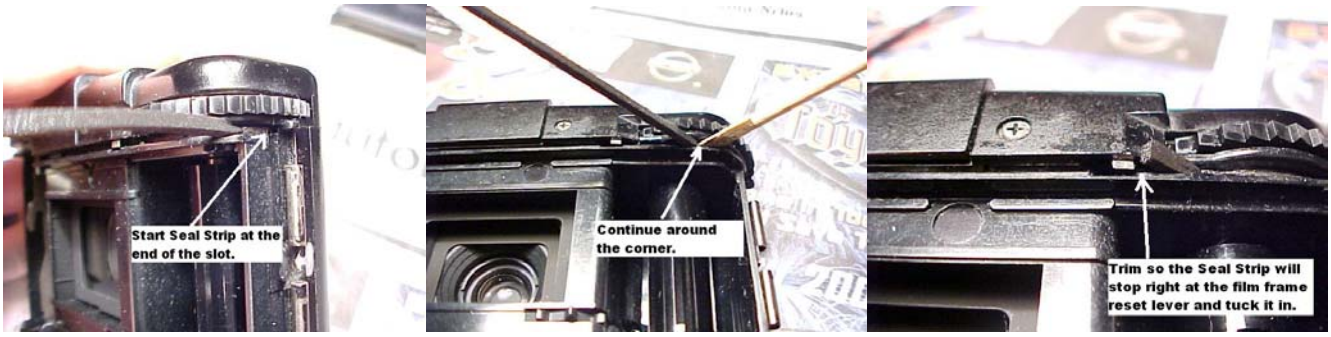
Left, I'm cleaning the old goop off of this XA2 door, and as you can see, the paint is coming off with the old seal material. I will re-touch this before I re-seal it. There will be notes about this at the end of the instructions.

Once you've completely removed the hinge end seal, latch end seal and door seals, take a piece of paper towel with naphtha on it and clean the film door edge and the body at the hinge seal area. Usually there will be old black seal residue here, and you don't want to leave that to foul your new seal material. You may need to wipe this two or three times until you get all the old junk removed completely.

Now we're going to clean out the rail slots on the camera body and replace those seals. Here's how:



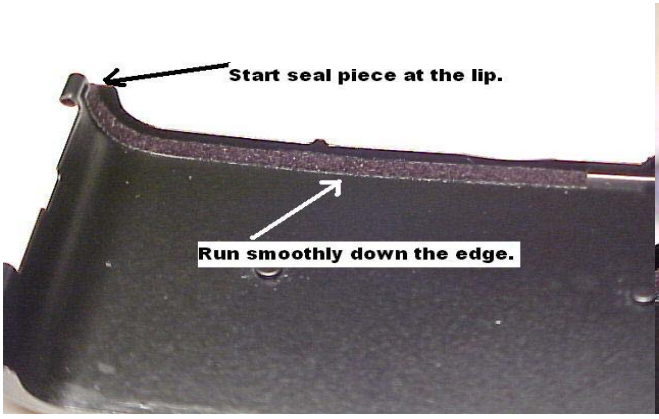
Wet a bit of paper towel with solvent and push it into the slot with the narrow end of your bamboo tool. Avoid the film frame reset lever. Then push this wet towel through the slot until all the old seal has been removed. Repeat the procedure for the slot on the other side of the frame counter and the bottom slot if needed.

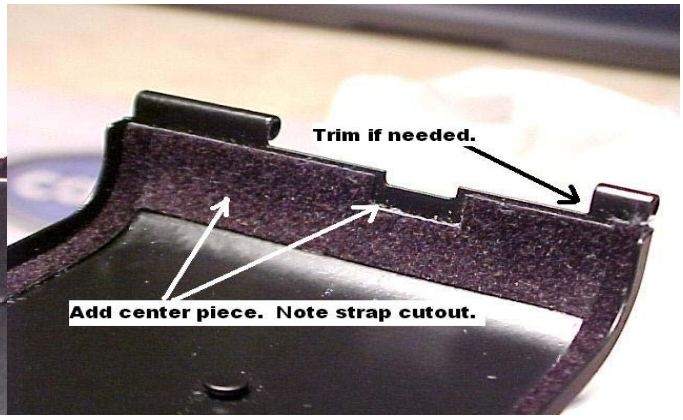


Press a 2mm Seal Strip into the slot using the thin end of your tool. Start at the end of the slot. Don't let the seal material twist as you install it, and follow around the corner. Install with the slick side facing outward. Don't worry that there is no adhesive. With this seal you don't need it. When you reach the frame reset lever, use a razor blade, small knife or tiny scissors to

trim the strip so it stops at the reset lever. Repeat this procedure for the part of the slot starting at the film frame reset and extending to the hinge end. If needed or desired, repeat this procedure for the bottom rail slot. Now, with a blunted toothpick trace the seal's length, pressing it gently down into its slot to seat it.

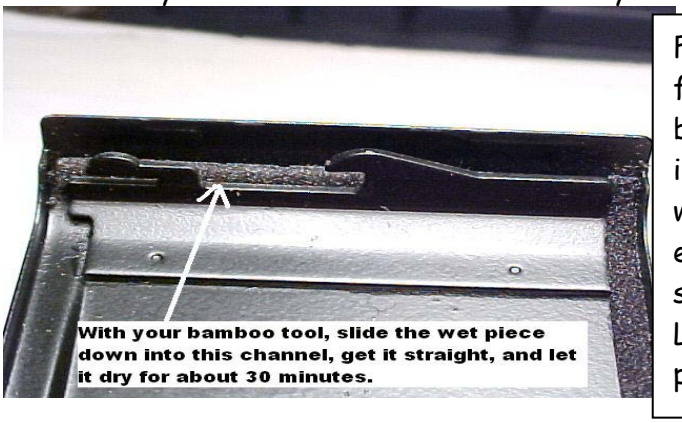
Now, for those with XA, XA1 or XA2, let's replace the film door seal. Remove the backing paper, **lick** the adhesive and start at the edge of the door on the hinge end side—flush with the lip of the edge (see picture). Run each straight down the door, keeping the edge of the seal butted straight to the edge of the door flange and be sure to evenly follow the door's contour (rounded) part. Press into place when you have them positioned properly and after they are dry…use your bamboo tool-wide end to seat them. (picture below shows how these should look) Please note the hinge end seal sits between the edge pieces you just installed and not on top of those edge strips. Here is a view of how it should look, and you will notice I have used the 1mm fabric seal for this XA2:





>>>NOTE: Please see the end of the instructions for explanation of the XA door.<<<

For those with the XA3 or XA4, simply replace the hinge end seal (with 1.5mm thick open-celled foam), carefully positioning it so that it does not extend into the rail slot or over the raised area corresponding to the handstrap connection. It is important that this little raised area on the camera body not be covered with seal material. On the first 3 models, you will see the cutout in the seal material is exaggerated around the slot (you can see this in the photo above right). On the last two models, the seal material is cutout so that it fits around this area on the camera body. You will understand this when you look at it.



For the latch end piece, you may use 2mm foam. Cut a piece 2mm x 47mm. Remove the backing paper and lick it very well. Saturate it, in fact. Slide it down the door into the slot, with the adhesive side facing the upturned edge of the film door. I know…this doesn't seem right. But I've found it will work better. Line the foam up with the piece of the latch plate where the arrow points and let it dry.

Once the latch end piece is totally dry (30 minutes or so), press it against the film door to seal it.

For those of you with first series XA models (XA, XA1 or XA2), you may now replace your pressure plate. First I slide the left hand slot beneath its retaining button and next I carefully position the opening over the other retaining button and push gently downward from the top until I hear or feel it click into place.

~~About the XA film door and the top seal piece:~~

The top strip isn't a difficult problem at all. Simply cut two pieces. There is a ledge at the point of the bend. Please look at how I do this:

Two 1mm fabric pieces set into place show how to install this piece in the easiest fashion.

Now you're finished and you can re-assemble your camera by reversing the steps above. You may use the dimensions below to cut your seal pieces.

~~NOTES~~

(1) If you want to re-paint your film door, a good spray paint is: Krylon #1613 Semi Flat Black. (you may also use this to re-paint the inside of the door with the pressure plate and all seal material removed). If your film door needs sanding, 400 or 800 grit wet/dry sandpaper should be just fine. Be sure to wash the film door in warm soapy water well and/or wipe it down with Naphtha before you sand it. The oils from your hands and fingers collect on the film door. Sanding the door before removing the oils only forces them into the old paint more deeply, making it more difficult to remove them later. Oils will cause "fisheyes" in the paint.

(2) Dimensions for seal pieces: First series door strips: bottom strip—112mm x 2.5mm. Top strip—70mm x2.5mm (unless your camera's strip goes all the way to the end…then it is apx 112mm, cut at the break as shown above). First Series hinge end seal—42mm x 8.5mm with a cutout of 8mm x 3mm spaced 12mm from the left side/22mm from the right side. Second series hinge end seal—46mm x 6mm with a cutout of 8mm x 3mm spaced 15mm from the left side/23mm from the right side. Latch end seal (all models) 2mm x 47mm. Material to use: First Series door & hinge seal: 1mm fabric seal or 1mm foam. Second series hinge end seal: 1.5mm open-celled foam.

(3) **Lick the adhesive?** Yes! Whether using foam or fabric, this will temporarily de-activate the adhesive. Then you can position the seal just where you want it to be. When it is dry, stick it down for good.

~~Let's measure the hinge end to body gap~~
XA, XA1 and XA2 models shown in this demonstration

How do we know what the actual thickness of the gap is in a camera? How do we measure that accurately so we'll know just which seal material will work best for us? Here's a method I've used for several years. You can do this, also. You don't have to use a dial gauge. You can usually tell the thickness by visual examination.

First frame above…I place a bit of common clay into a tiny fold of waxed paper.
Middle frame above…I close the film door and latch it. The waxed paper keeps the clay from sticking and falls out when the door is opened, preserving the measurement exactly.
Third frame above…I carefully use a dial gauge to measure the clay. As you can see, it is .028 inch. We know that 1mm = .0394 inch.
Therefore, 1mm thick foam will give you a compression ratio of almost exactly 25%, which is ideal.
The 1mm thick fabric seal I sell is actually a few thousands of an inch less than .0394, and it will provide a compression ratio of slightly over 20%, which is ideal for a fabric seal. Whichever you choose will work fine.

Take your time….use the "good stuff"….do it right.

Jon Goodman --- 2006