

# Dr. Love's Guide to SX-70 Troubleshooting

How to, and How Not to...

Read this guide in entirety before you begin testing

# Orientation



Watch this SX-70 video by Charles and Ray Eames. It explains what's going on inside your SX-70 so that you can best understand it before troubleshooting.

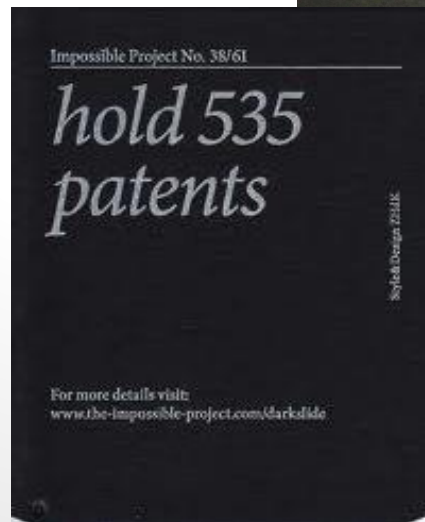
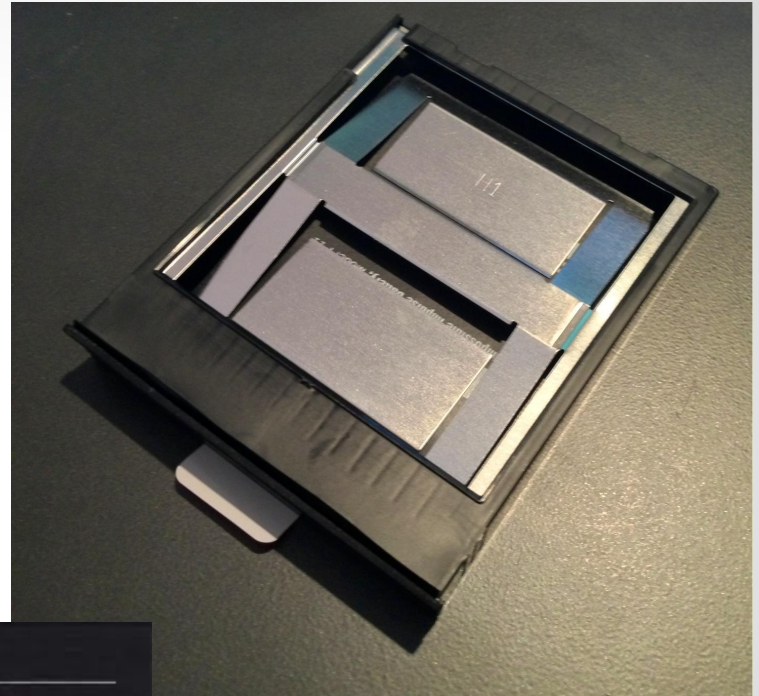
# 01: Don't Waste Your Film

If you have a camera that doesn't appear to be working and there's a pack with film inside it - take it out before you try anything with the camera.

Refer [here](#) for tips on how holding onto dark slides and empty film packs helps in troubleshooting and prevents wasted film.

To begin to properly troubleshoot a camera, you **MUST** use an empty film pack with a good battery charge.

Sometimes attempting to diagnose a camera with a pack of film won't tell you anything, and may complicate the issue while wasting film.



# 02: First things First

Regardless of what the camera seems to be doing, follow these steps, otherwise you may make twice the work for yourself.

- The very first thing you should do is put the empty pack in, close the door, and ensure the camera makes a good cycle.
- Listen for the mirror slap, the sound of the motor and gears, counter sets to 10, and at the end, the 'snap' sound of the picking arm.
- If a camera can't do this from the start or after a few tries, pull the empty out and reinsert it to try again.
- If camera is unresponsive, or is being inconsistent or the motor 'clicking', move to [SX-70 CPR](#).
- After SX-70 CPR, if still unresponsive, you may try different pack, or better, contact Impossible for troubleshooting and possible repair.





# 03: The exception to 02

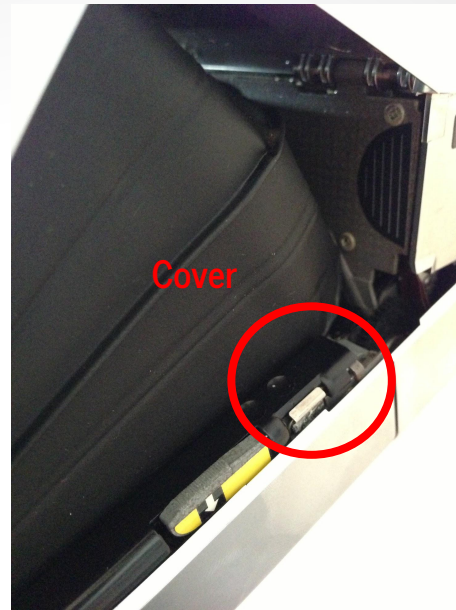
The exception to #2 is if a camera has a mirror that's 'up'. Whether it's 'stuck' up or whether it's just out of sync.

Before going fully through #2, the mirror needs to get back DOWN.

An empty pack can usually do this, but if not, refer to [here](#) for how to manually wind a mirror back down.

If the camera is unresponsive to a pack, wind the mirror back down so to be able to close the camera completely and safely before sending to repair.

If it feels like you're 'forcing' the gears after trying both ways, STOP and send for repair.



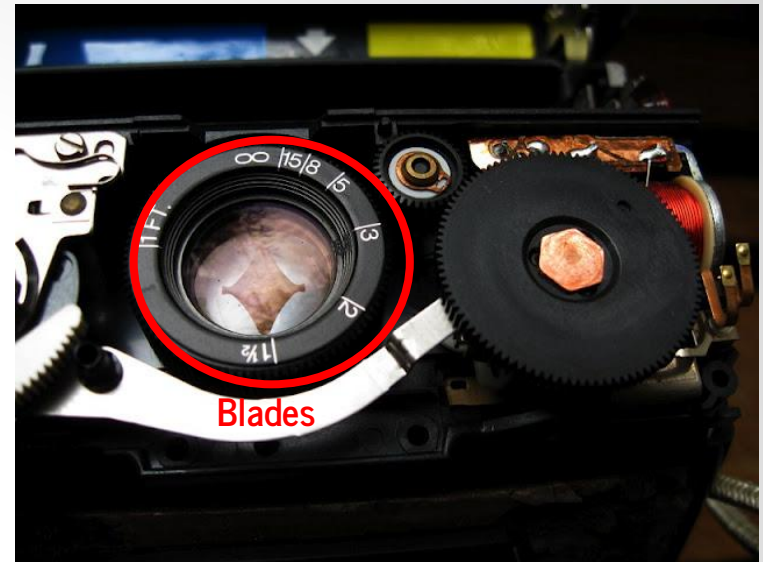
# 04: Look and Listen

Once the camera can cycle appropriately upon a pack being inserted, it's time to look and listen. The counter should read 10 after inserting a new pack, if anything else, the counter hasn't correctly reset. Try inserting and re-inserting a pack rapidly to 'jolt' loose the counter contacts so it resets.

1. If counter never resets, send for repair.
2. If counter is good, move to test-firing camera.
3. When firing the camera you're looking for several things, namely look *at* the lens. You **MUST** see shutter blades move in, and then out, of the view through the lens.

Blades will move to close while the mirror inside moves up, open for exposure, then close while mirror closes and film ejects, then open once finished.

If blades are; stuck closed or open, do not fully close, or seem slow to move, send for repair.



# 05: Ejection

Another common issue you may experience is issues with film ejecting. Isolating the cause for this can be tricky at times.

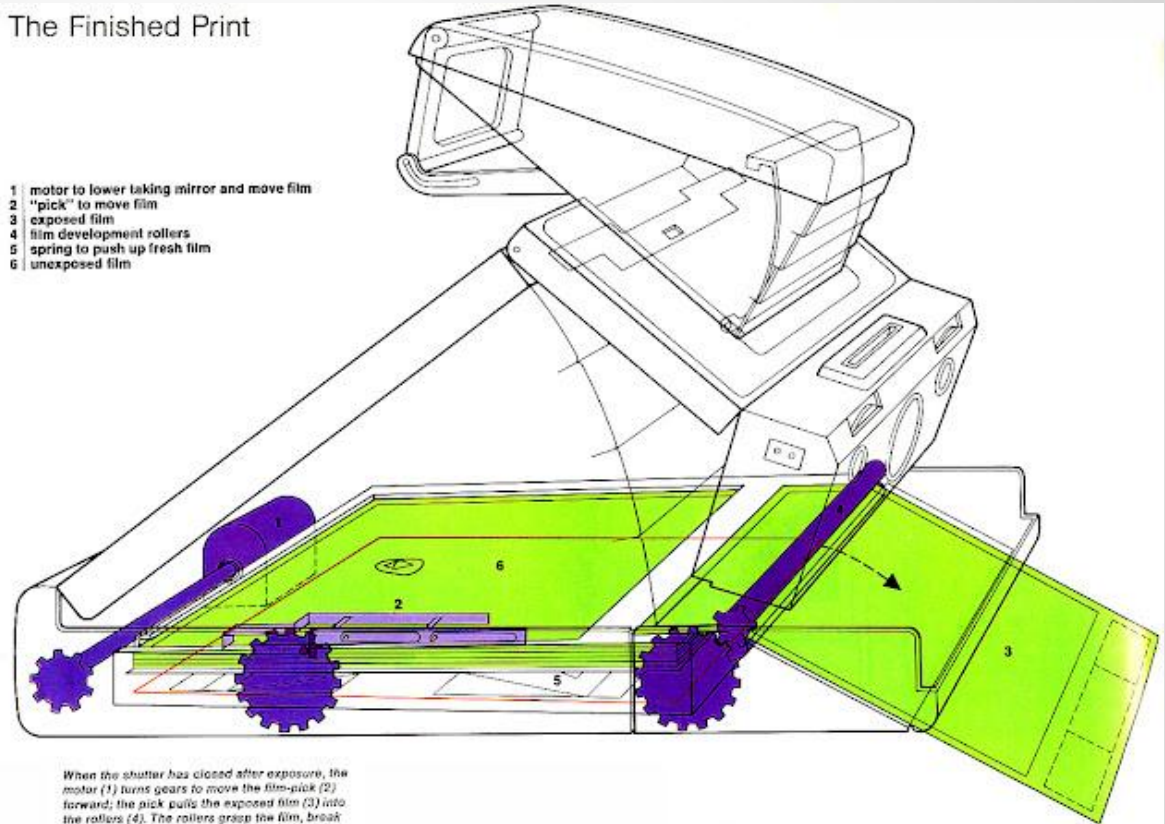
First decipher which of these three possible issues is happening, then you can diagnose and identify the issue.

1. The film is not being ejected at all
2. Getting pushed out but not reaching rollers
3. Getting jammed in the rollers themselves

Establish WHICH of these three is happening before proceeding.

The Finished Print

- 1 motor to lower taking mirror and move film
- 2 "pick" to move film
- 3 exposed film
- 4 film development rollers
- 5 spring to push up fresh film
- 6 unexposed film



When the shutter has closed after exposure, the motor (1) turns gears to move the film-pick (2) forward; the pick pulls the exposed film (3) into the rollers (4). The rollers grasp the film, break open the pod of chemicals, spreading them between the negative and positive layers of the film, and finally eject the film from the camera. As the motor rolls the film out of the camera, it also lowers the taking mirror to uncover the viewing mirror for the next exposure, and a spring (5) pushes up a fresh sheet of film from the pack (6).

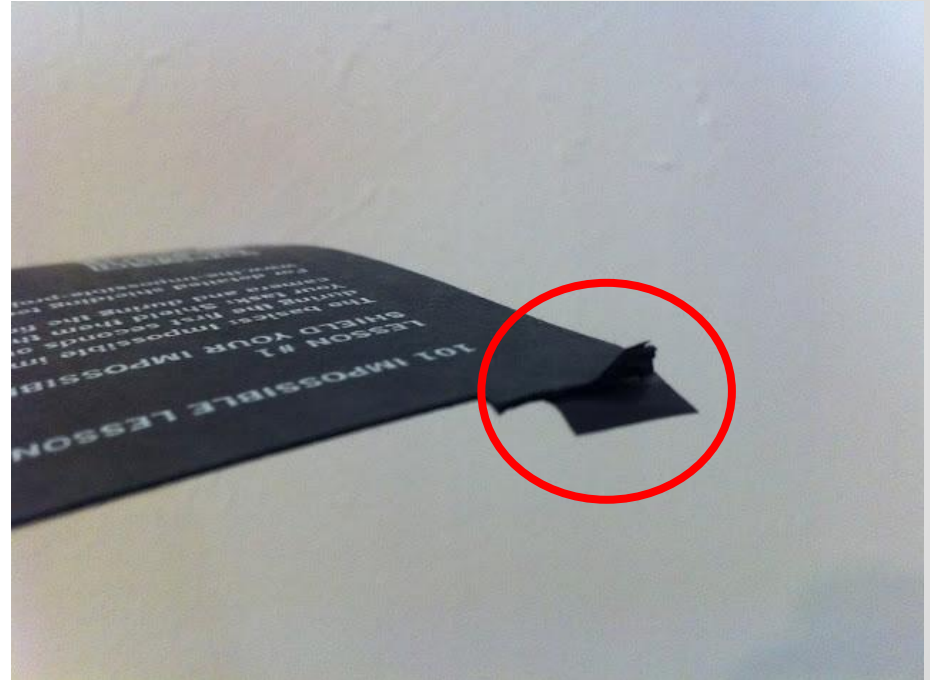


# 05: Ejection Continued

Once you know what is happening, you can try to determine the cause.

1. If the film is not being ejected at all:  
Test camera with single frame/dark slide. If it can eject one, it's NOT the pick arm. Ensure slide/frame is not frayed, torn, or bent. You can look back into camera to see if pick arm seems bent or broken as well. This is typically not the issue.
2. If film gets pushed out a little, or gets jammed in rollers: the rollers have little to no grip, refer [here](#) for how to rejuvenate roller grip.

When testing for this, use unspent frames as spent ones are thinner at pods and invalidates test as well as jam at trap end because of dried paste.





# 06: Image and Rollers

Lastly examine the image results themselves.

Review the booklet with the film for what causes various common issues on the film.

1. If you see vertically repeating patterns, this is often caused from dirty rollers, and keeping them clean is **PARAMOUNT**.
2. Images that have uneven developer spreading **NOT** caused from [developer aging](#) in the film, may be caused by damaged rollers. Be sure they are clean and roll evenly and that there aren't other [pressure issues](#).
3. The "[brown undeveloped patch](#)" must be understood before diagnosing from camera to camera.

-Note: Plastic cameras are better with ejection than folding because of superior pick arm design, so it can still be a 'sticky' pack even though it works in a plastic camera and not folding, nothing is wrong with the pick arm. Also note [roller](#) design differences.



# 07: The Agony and The Ecstasy

Now you have completed the guide. At this point you should feel fairly sure that you either had a slightly sick camera that has made a recovery and is on the mend...or you have a very sick camera...and now you need a place to send it

If you're still questioning what's wrong with your camera please feel free to contact us at

[usa@the-impossible-project.com](mailto:usa@the-impossible-project.com)

If you want to send your camera in for repair, we recommend [www.phototech.com](http://www.phototech.com) here in NYC.

For more info, here's a [link](#) to all the 'Dr. Love' Blog posts.

As always, keep your rollers clean,

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