DIY Maintenance: Arc-LS Kroll tail switch

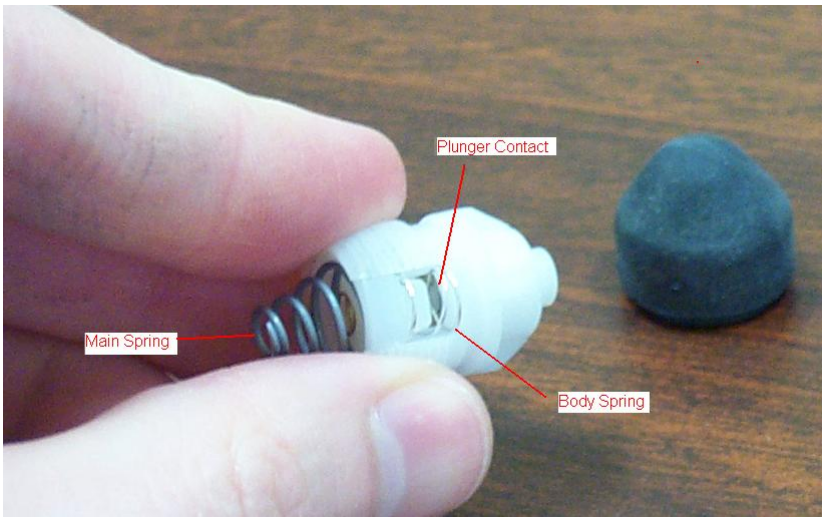
DIY Maintenance for the Arc-LS Kroll Switch.

We have found the Kroll switch (actually made by a US company called Judco) is a fairly reliable switch. But like all mechanical components, it will eventually require service.

The Kroll switch is fairly easy to work on and good results can be achieved with simple tools and just a little bit of effort. Following is a description on how to service each part:

Body Spring

The most common problem that occurs with the switch has to do with the body spring.



This spring is responsible for contacting the body of the flashlight. The remainder of the switch connects the negative contact of the battery to the flashlight housing via this spring.

There are three symptoms caused by problems with this spring:

1. Switch fails to stay latched on when operated.

When pressing the switch the light may or may not come on as long as the button is depressed. However, when the button is released, the switch fails to latch on (stay on).

This is usually caused by the body spring catching 1 or 2 coils over the plunger. The spring should always be entirely below the plunger. Typically, this problem is a result of installing the switch into the flashlight body while the switch is in the latched (on) position.

To fix this problem, you will need a small screwdriver or other metal object to coax the top of the spring away and beneath the plunger. Reinstall the switch into the flashlight while the switch is in the off position. This can be observed by looking past the body spring and making sure the plunger is not pressed against the spring.

2. Light flickers when in the latched position.

This can be caused by several problems including the body spring. If the body spring is the cause it is usually because the spring is either not providing enough tension or has become fouled.

To re-tension the spring, remove the spring from the switch and stretch it out slightly.

Removing the body spring: This is accomplished by using a small flat screwdriver to push the spring down (away from the rear of the switch) and slide it out. The spring should pop out fairly easily.

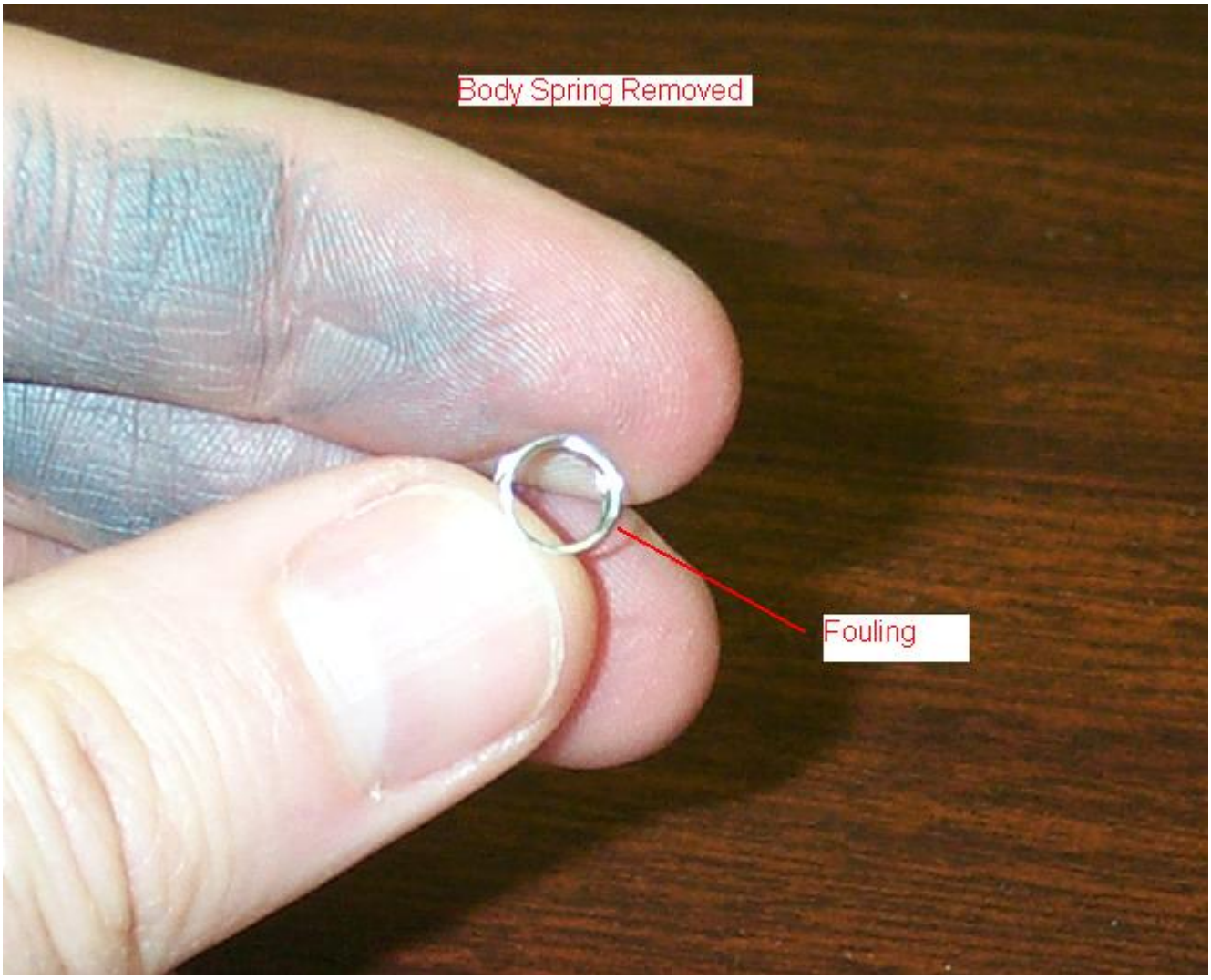
If the problem is fouling, see #3.

3. Light does not come on at all, dim or flickering.

Check the battery and battery contacts. If those check out, the body spring may be the culprit.

I have observed sufficient fouling on a body spring to cause the light to be completely dark. The fouling is a black residue on the spring and plunger caused by electrical arc. A quick fix is to simply remove the spring and put it back in upside down so the metal contacting the plunger is fresh. You can also spin the plunger to a non fouled side by rubbing a screwdriver bladed against it. This will cause both contacts to now be fresh and free of fouling. This fix alone has changed a light that would not light even dimly to 100% full function.

With practice, this fix can be done in the field with no tools whatsoever.



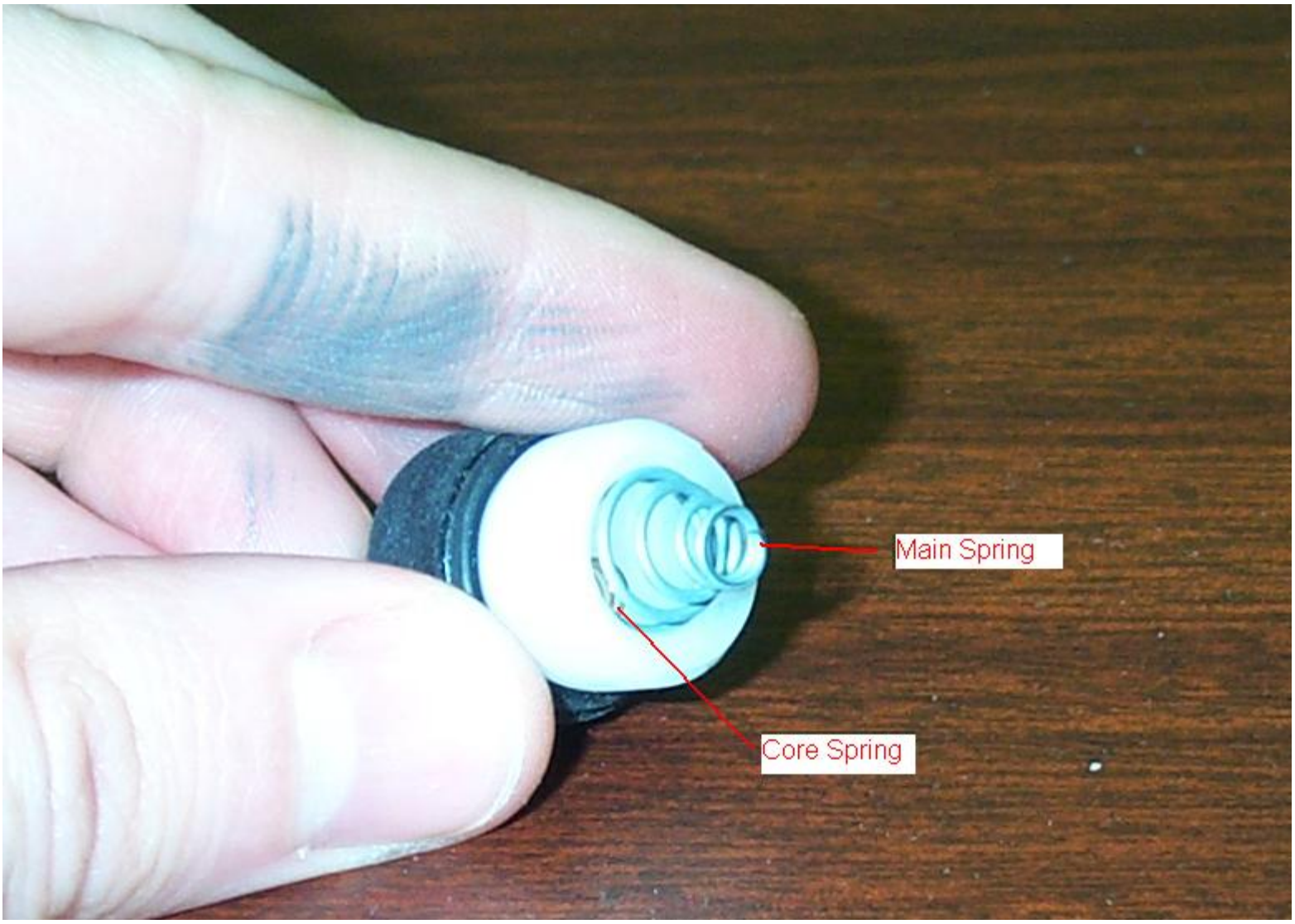
Main Spring

The main spring is responsible for making contact with the negative terminal of the battery.

Typically, this spring doesn't complain much. I have seen it experience only two problems, corrosion and detachment.

Detachment is when the spring somehow pops free of the switch. The symptoms are the batteries are loose and the light does not work. Once you find the spring, it can be popped back into placed with firm pressure.

Corrosion is usually light on this spring. So far I have only seen minor cases that could easily be scraped off with a pocket knife or file.



Core Spring

I have not seen any issues with this spring yet. It may experience fouling on top part of the spring but I am yet to see this occur. The fix, if that did happen, would be just to scrape it off.

Rubber Boot

The rubber boot is fairly durable. I have known some of them to be punctured (usually by way of a pet chewing on it). The light will still work but the waterproofing will be compromised. The best fix is to simply replace the boot. We provide free switches (you pay the shipping) upon request.

When installing the switch, make sure the rubber boot is completely tucked in and snug between the two parts. If it loose, the light will leak around the boot.

Success!

General Care

The nylon threads do not require lubrication. We do not recommend you use any because it may foul the body spring.

Care should be taken when installing the switch as to not strip the nylon threads. Clear the metal threads of any debris before installing the switch.

It is normal for the switch to flicker while you are pressing the button. This is usually the motion of your finger being translated to the contacts. However, the switch should not cause the light to flicker once the button is released.

Sometimes the LS will flicker when transitioning from sun mode to moon mode. This does not indicate a bad switch.

[arcflashlight.com]