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Low and Consistent Heat: Cosmoline Removal

Article by Tom Boucher

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The most important task relative to Cosmoline cleaning is to memorize and then continue to repeat to yourself, "Cosmoline is my friend, Cosmoline is my friend", remembering that this substance is why your "new" rifle is not a pile of rust and rotted wood.

Then, equally important, is to adopt the concept of "reversing the cosmoline application process." If you have any desire to put the military surplus rifle back into the exact condition it was in before being dipped in hot cosmoline you will avoid harsh chemicals and water. NEITHER OF THESE THINGS ARE APPROPRIATE. What is appropriate is the slow and consistent application of the same level of heat that was used to melt the cosmoline into the wood in the first place. Cosmoline can be dipped or brushed onto the firearm at temperatures between 140 and 160 degrees F. While it can be dipped into hotter melts it's not necessary and is done, generally, to allow more firearms to be dipped without cooling the liquid. So, keep in mind that cosmoline melts at about 130 degrees F and the temperature that's the best, the most gentle, and the least invasive to remove it is about 150 degrees F. Resist the urge to use higher temperatures as you want to melt the stuff not cook it. If you heat it for too long or at too high a temperature you run the risk of solidifying it, leaving a crusty residue.

Cosmoline is very much like Vaseline, both are petroleum-based products, and both are non-toxic (unless consumed). There are many, many simple solvents that will help you in your efforts but I believe that the two friendliest are mineral spirits (paint thinner) and aerosol brake cleaner. Brake cleaner is generally less expensive than carburetor cleaner because it doesn't have the chemicals in it designed to remove the shellac deposits from a carburetor, which also, according to many people, can damage not only the stock finish but also the bluing. And it's getting a bit rarer as well because automotive fuel injection has reduced the amount of airborne fuel that used to be deposited on metal carburetor surfaces. I've also heard that some of these cleaners can remove the white paint on sights but I've not had that happen with the ultra-cheap stuff.

So, before I got too involved I'd head over to the nearby Pep Boys and pick up a case of brake cleaner at about \$1.00 a can. This will be enough to handle this first mil-surp and the next few that you will find tend to migrate towards the ones that have already been cleaned. Then head over to the local paint store for a half gallon of Mineral Spirits, another couple of dollars. And if you don't have a bunch of rags you might pick up a few at Pep Boys when you are there. You can wash them but if you use the mineral spirits never put them in a dryer as the fumes can be extremely flammable. Just let them air dry.

Ok, your indispensable site for disassembly and reassembly is www.surplusrifle.com. Jamie over there is my single favorite source for good, solid information about all my mil-surp rifles. The specific URL you need is: <http://www.surplusrifle.com/sks/index.asp> Figure that the first time you disassemble your mil-surp you're going to have cosmoline all over your hands and anything in the general vicinity. Lots of rags are essential.

As you take things apart, put them in a bucket or paint roller tray with a couple of inches of mineral spirits in the bottom. A toothbrush is essential to your success as well, and cotton swabs come in extremely handy for lots of hard to reach areas. I also have a 1" paint brush with natural bristles that can get into some pretty tiny areas. If domestic tranquility is not an issue, an alternative to this method is to cook up a batch of soapy water, even to boiling, and use that to "wash" the cosmoline off the small parts. It works equally well as the mineral spirits, is "free", and only imparts a gentle aroma of cosmoline to the home.

Once it's in its "field strip" condition you're half way done. I believe that it's absolutely essential that on most rifles that the bolt be disassembled. I believe that because I've had a couple of them that were "evidently" clean inside but when disassembled there were significant amounts of rust and cosmoline. My guess is that moisture can get trapped in there and the cosmoline keeps it from escaping.

The metal parts are simply a matter of brushing, spraying, brushing, spraying, and then doing it again. There is nothing wrong with tossing them in the oven with the stock (see below) propping the trigger guard on edge so material will flow out and otherwise putting parts and pieces on rags so the cosmoline will run into the rags. Brake cleaner down the bore will get out a goodly amount of Cosmoline and a standard cleaning with normal gun cleaner stuff (Hoppe's, etc.) will take care of the rest. Lots of brake cleaner sprayed into the trigger group will generally do a good job of flushing it out. Same thing with all the other bits and pieces.

The stock is a different matter. Water and harsh chemicals are simply poor choices for cleaning wood. Chemical companies have been working for many years to develop

cleaners for wood, only a few of which are water based. Murphy's Oil Soap is one such product that can be used in reasonable quantities on wood. The heavy duty "green" and "orange" cleaners are simply not appropriate for cleaning wood stocks. They contain harsh chemicals that are absolutely not necessary for cleaning cosmoline. So if your objective is to do nothing damaging to the wood while simultaneously removing the cosmoline, do NOT use any water based cleaners and avoid "grease cutters" like oven cleaners. They are extremely harsh chemicals (like, why else are you supposed to wear gloves if they aren't harsh?) and are NOT GOOD FOR WOOD.

So, let's explore the correct way to remove cosmoline. As mentioned above, gentle heat is by far the best way to liquefy and remove cosmoline. If your oven is big enough you can put it in there at "warm" (lowest possible oven setting) and it will bleed the cosmoline out from the pores of the wood. Wipe it down every 15 minutes with old toweling until the weeping has stopped. If that won't work due to size or domestic issues you can put it outside in a plastic bag, some people like black because it absorbs the heat of the sun better and some prefer clear because they opine that the direct sunshine generates more heat. This will take a little longer but it's important that whenever it starts to cool down that the stock be removed and wiped dry. I kind of like the creativity of the "dashboard" process which is a sheet of tinfoil bent up to hold liquefied Cosmoline and set on the dashboard of your vehicle. I haven't done it but it sounds like a great plan to me if you have a place where you can do it without tempting someone to "borrow" your stock. The latest method is a wrap in rags, VERY tightly sealed in a plastic bag, and a bath in the hottest water you can get. Haven't tried that one but it sounds pretty reasonable to me. Word has it that you can add boiling water from your stove to the hot water from your heater and get pretty satisfactory results.

I am going to build a "cosmo coffin" that uses light bulbs for heat but haven't done it yet. It's one of those projects that I'll get to when I get a round to it.

Word of warning - When baking your stock make absolutely sure that it's positioned in a way that will keep it from close proximity to the coil. I understand that modern gas ranges have plates above the burner so they should be fine as well. Also, if you are using a rag to remove the stock and/or hand guard from the oven, and the element is in the heating mode, if the rag touches the element it WILL begin to smolder, virtually immediately. (Please don't ask how I know.)



The point is, GENTLE heat will melt cosmoline away from both wood and metal with NO ADVERSE AFFECTS on either the wood or the blued or bright metal. After a couple of hours of 15 minute heating cycles, wiping between cycles, just let it cool and wipe off any remaining surface cosmoline with mineral spirits.

It's also a good idea to keep ANY solvents or cosmoline out of your drains. They are petroleum based and float on water. This means that they are not going to flow easily through the traps and are likely to gum up and/or clog drains. Everybody has to figure out the best disposal method in their particular circumstances.

So, that's about it. If you want to put your mil-surp rifle back into the condition it was in prior to going into storage, be patient, be gentle, and be thorough. You will ultimately be very, very glad you took the time to do it right, the first time. And if you are going to refinish you will not be disappointed by having the cosmoline seep up into and/or through your finish of choice. When you do it right you will find that the stock will take just about any finish that you like.



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