

M14 Lubrication Instructions and Illustrations

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M14/M1A lubrication Instructions

The M14 family of rifles is well known in the world of firearms. What is not well known is that it takes a very different style of lubrication to keep them running properly. I come from the generation where the military had been using the M16A2 rifles for quite some time and we were taught to use a respectable amount of CLP and elbow grease to keep them running properly. Proper lubrication of the M14 rifle will reduce the likelihood of failures and will reduce the wear and tear of critical parts which will increase the overall longevity of the rifle.

Luckily, for me, when I became interested in M14 rifles, I did my research before making my first purchase and was able to acquire the proper tools and chemicals required to maintain them. What I learned is that grease is the recommended lubricant of choice for such a rifle. Now I'm not a rifle authority or an expert by any means but I listened to the experts and their recommendations. From what I gather, when you have a rifle that is steel on steel, you need a thicker lubricant that won't dry out and one that will stay put. I have to think back to my all-stainless 1911. All my other pistols and rifles require oil but the all-stainless 1911 I have requires grease to function smoothly.

Someone else may have a more eloquent explanation than mine and I wish they were here helping me write this but that's the best one I can come up with for now.

What type of grease should I use?

What type of grease to use is a subject of much debate, kind of like M4 feed ramps or cast receivers vs. forged receivers and Ford vs. Chevy. Rather than get into semantics about it, I'll just list the popular ones that experience shooters use.

- Lubriplate 130-A (I use this because Brownell's has a can of it that will last a lifetime)
- Plastilube (I can't find this stuff to save my life but it's good).
- Tetra gun grease.
- Mil-Comm TW-25b (not as popular but it does the job).
- XF-7
- Mobil 1 synthetic grease
- And last, but not least, High temperature wheel bearing grease (the subject of much debate).

Of the greases listed, to the best of my knowledge, only Lubriplate and Plastilube are approved by the military for use on real M14's. If I remember correctly, Smith Enterprise uses Tetra on their rifle builds but I could be mistaken.

For the civilian shooter, any of the greases listed above will serve you well. The most important thing to remember is to use grease and not oil on critical areas. There are a few areas to use oil and I'll cover that towards the end.

Is there any prep work involved before I begin?

Yes! If this is the first time you will be lubing the rifle since you purchased it or if it's been years since the rifle has been touched and lubed, the grease may be tacky and slow down the action. I suggest using denatured alcohol to degrease the rifle or some type of degreasing agent that will not damage the finish of the metal (if one exists). Use cotton tipped applicators (wooden Q-tips) and pipe cleaners if you need to and get all the old stuff out from the nooks and crannies. After degreasing, wipe the rifle completely dry before proceeding.

Do I really have to completely disassemble the rifle to lube it properly between range trips?

No! You only have to do it upon initial cleaning when you first obtain the rifle from the factory or if the rifle is "new to you". Between range trips, just wipe off the old stuff that you can get to and reapply a fresh coat to accessible areas. There's no need to break the rifle apart except once a year, after every 1500 rounds or unless the rifle has been exposed to harsh conditions (sand, water, mud).

How much grease should I apply and how should I apply it?

In the case of grease, sometimes "less is more". You only want to apply enough to get a thin film on the selected areas. If you glob on the grease, it may end up in your face when you shoot. The illustrations below will look as if grease has been liberally applied but it's just an optical illusion. The flash from the camera really reflected off the grease and made it seem that there was more there than there actually is.

When I first began writing instructions, I used to use a hobby syringe to apply the grease. And my previous instructions show that. That's okay, but now I use a small hobby brush and just put a little dab of grease on the tip and I use the brush to spread it out. It works like a charm! If you don't have a brush, just apply a little dab of grease to the desired area and spread it with your finger until you have a nice thin film. Wipe off excess with a clean rag.



A little grease goes a long way...

Where should I apply grease?

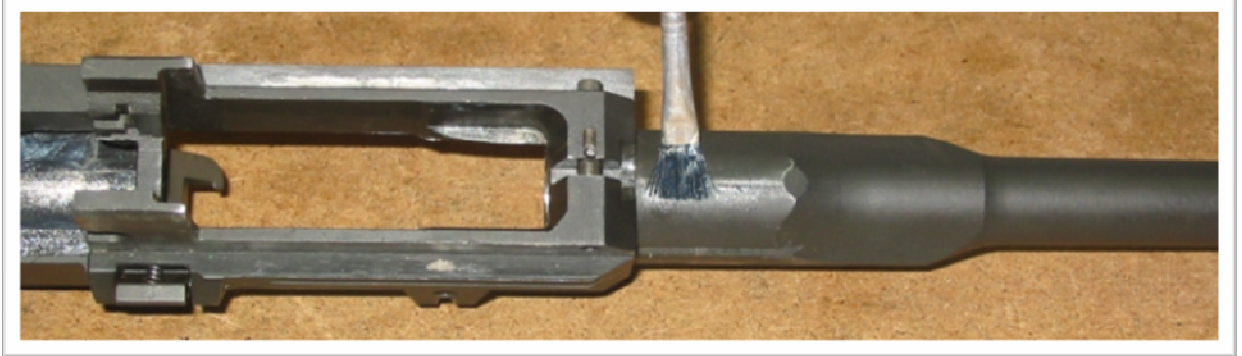
Starting from the front of the rifle and back, the first place is on **the lip of the front band**. Only lube the curved lip and not the vertical surface. Also lube the contact point on the stock ferrule.



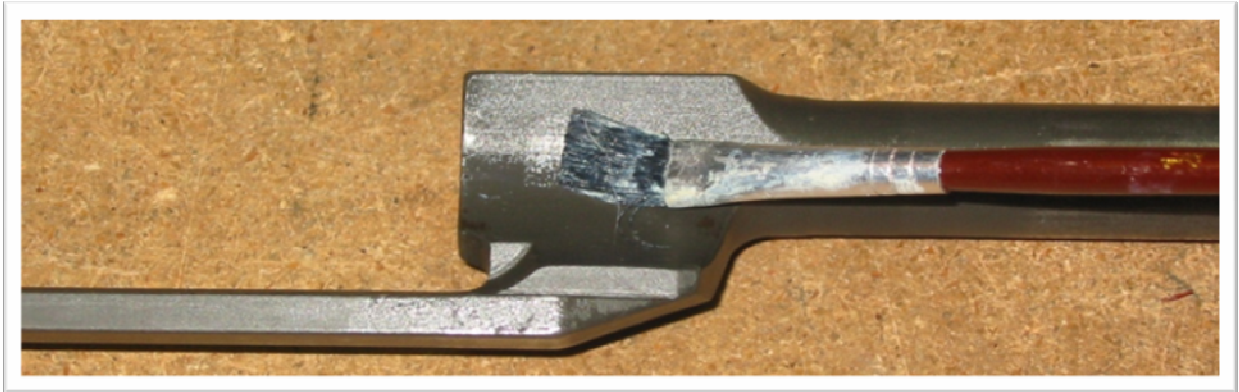
Just a little on the curved surface of the front band lip

This spot is probably the most overlooked point on the whole rifle but a very important one. A lubed front band/stock ferrule (FB/SF) will allow the mating surfaces of the FB/SF to return to their neutral positions from shot to shot as the barrel whips about. If you didn't know the two parts rub, try doing some searches on the internet of slow-motion videos of someone shooting an M1A. You will be very surprised at how much the barrel whips around. This is a common and important lube point that was probably discovered by competition shooters and military armorers. You can still access this point with the rifle assembled. Just squeeze the hand guard and forearm area of the stock together and that will separate the two pieces just enough to get a cleaning patch in there to wipe out the old grease and then apply a small dab of grease in the gap and let the pieces mate together and spread the lube.

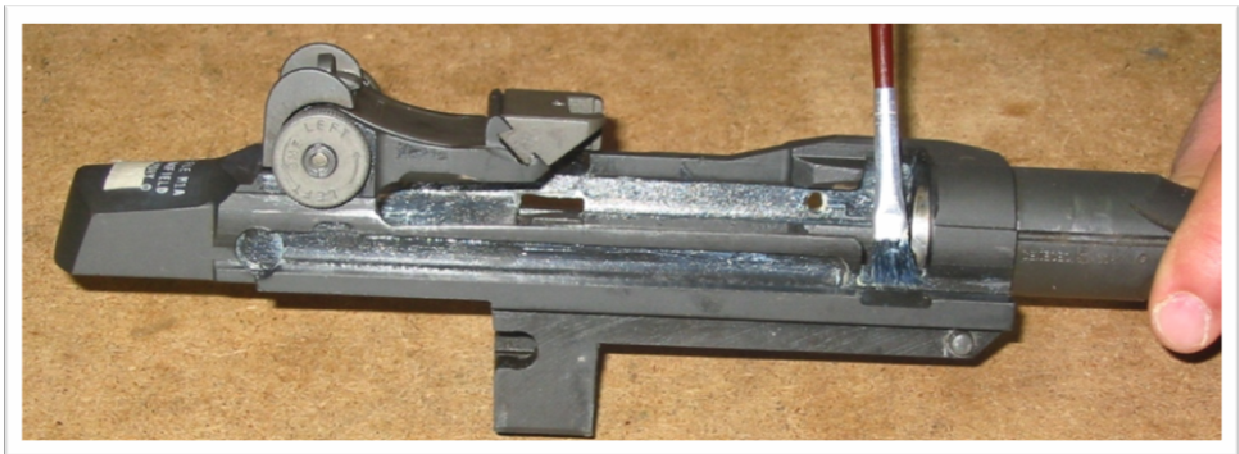
Moving farther back, the next point is the top of the operating rod where it rubs against the barrel. Apply a little both on the operating rod and on the barrel where they rub.



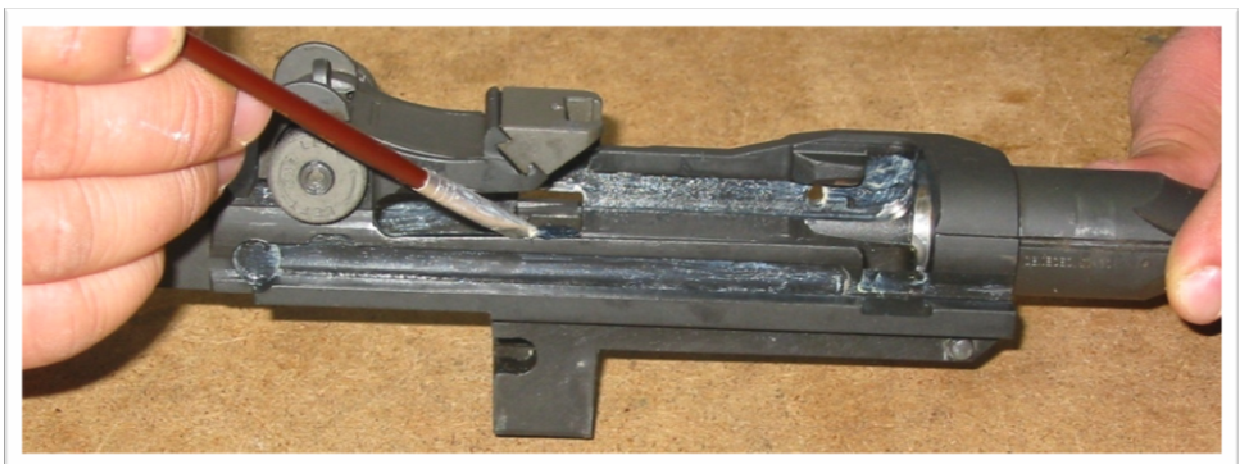
Bottom of the barrel contact point.



Apply grease where the operating rod contacts the bottom of the barrel.



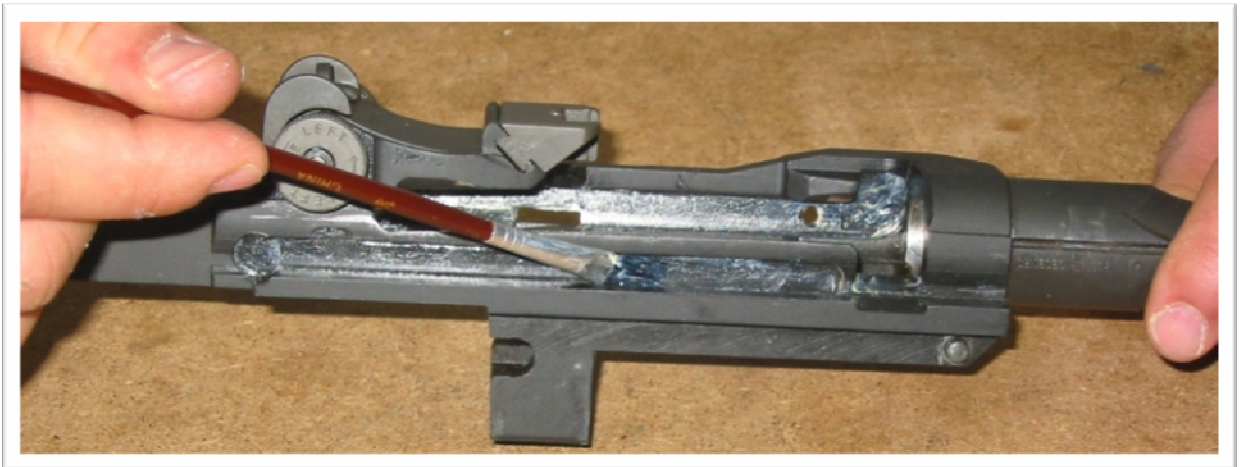
The right side bolt lug locking recess.



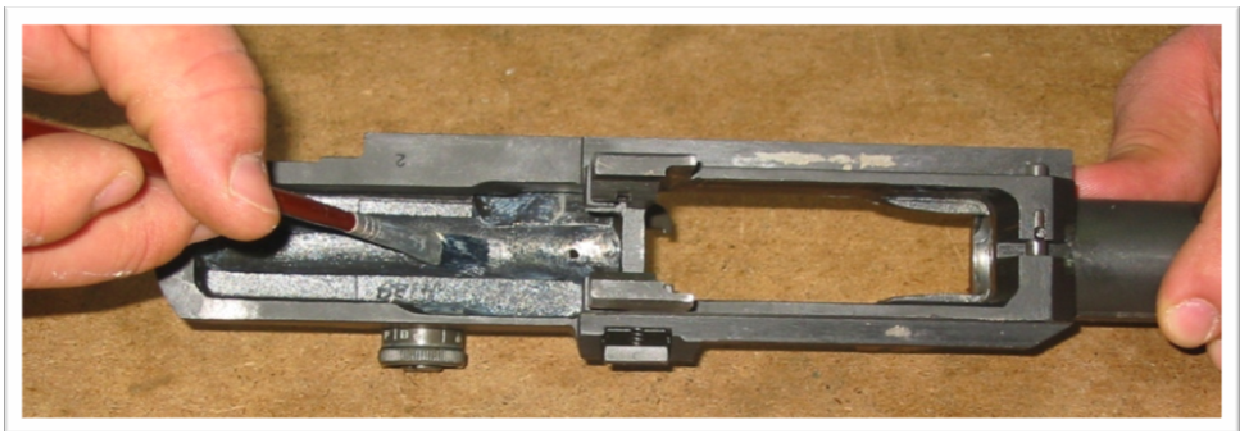
The right side bolt accelerator rail. Don't forget to get the curved part by the rear sight.



The left side bolt lug track and locking recess



The operating rod tab track



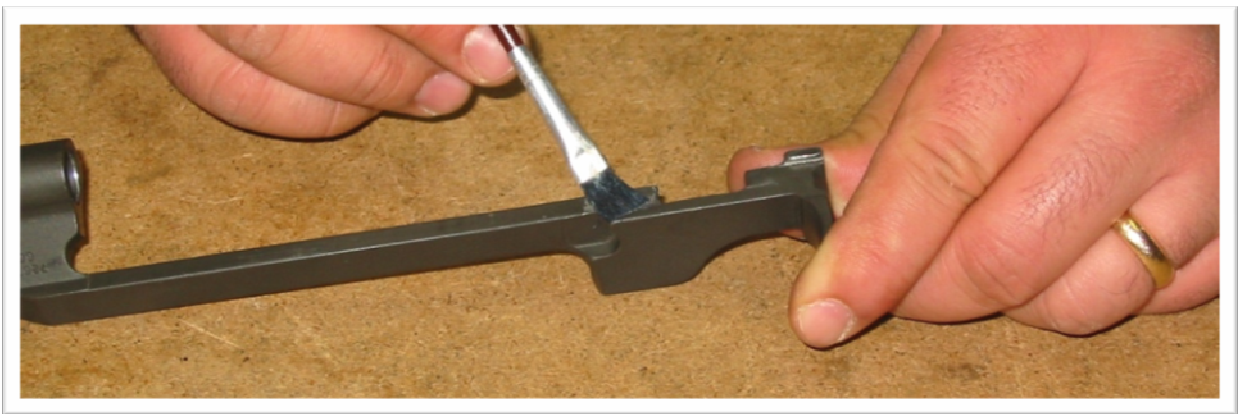
Also lube the underside of the receiver where the top of the bolt will ride



Apply lube inside the bolt roller camming area of the operating rod.



Apply a thin layer to all surfaces of the operating rod tab.



Apply grease to the step under the operating rod hump.



Pack grease into the bolt roller like you would pack grease into a wheel bearing.



(Optional)

The BAD-T1 tool also has a handy grease packing tool. Simply fill the grease pot with a little grease and press the bearing in. The grease should flow into the bearing. Brownell's also sells a bolt roller greaser tool for this step.



Leave the excess grease on the face of the bolt roller but wipe the excess that has collected at the back of the bearing.



Apply a layer of grease on the bottom bolt surface where it rides over the hammer.



Apply a thin layer under the rear sight base

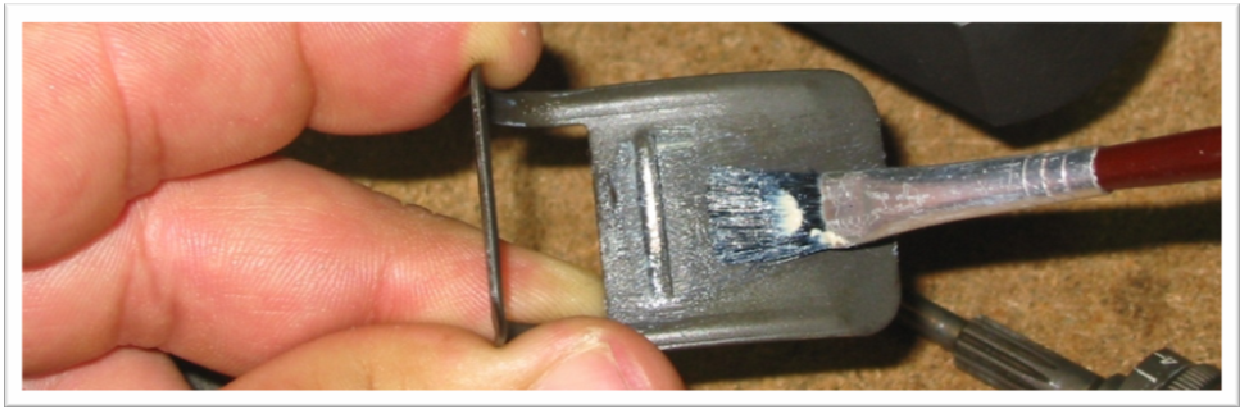
Note: The rear sight group only needs lube during annual cleaning or if the rifle has been exposed to harsh elements where thorough disassembly and cleaning is required.



Apply grease on the windage knob threads and the raised bumps that engage the receiver windage detents.



Apply a layer on the rear sight section of the receiver.

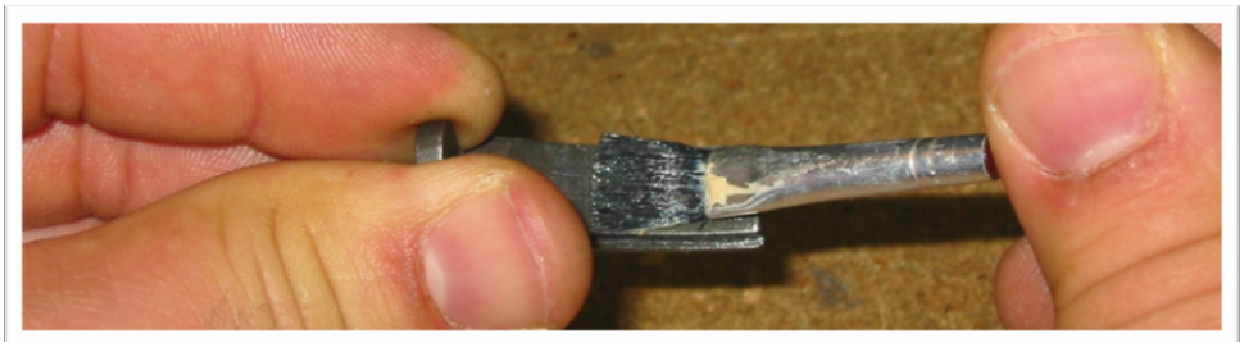


Apply grease under the rear sight dust cover. This part also acts as a spring that holds down the aperture.



Grease the windage detents on the right receiver ear.

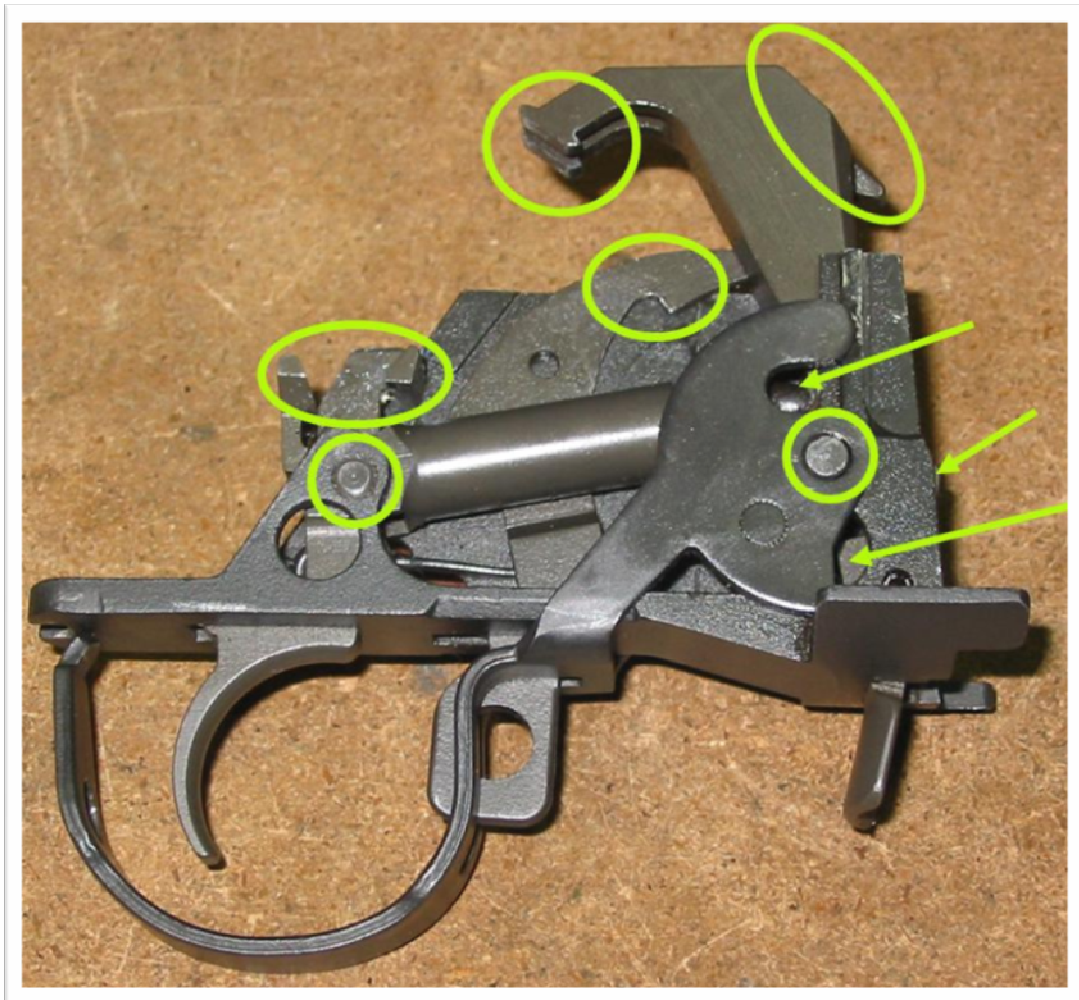
Do not apply grease on the left receiver ears where the elevation grooves are! Doing so could cause the elevation knob to move under recoil!



Grease only the top of the aperture and the side rails that engage the grooves in the rear sight base.

Do not grease the teeth that engage the pinion!

Oil does have its place on the rifle though. Basically, oil anything that pivots on a pin within the trigger group. The contact points on the trigger group can be lubed with either oil or grease as illustrated below...



For the trigger group, you can use grease (or oil) on the hammer hooks, the hammer face, the sear hooks, and the safety hook (the one just below the hammer hooks). Apply a drop of oil on the trigger pivot pin, the trigger guard pivot pin, the hammer spring and plunger, the magazine latch spring and the surface of the magazine latch

I have found that the wetter the operating rod spring and spring guide is, the smoother the action will be. I once used some sparingly until someone told me that a master M14 armorer recommended wetting the spring guide down for best results. I tried it and I couldn't believe how much of a difference it made. Of course that was on a NM spring guide, not a flat GI style as shown below...



Use oil liberally on the operating rod spring guide, the operating rod spring and the tubular portion of the operating rod that rides in the operating rod guide that's connected to the barrel.

Once you have your rifle back together, work the action back and forth. You should feel a noticeable difference in the smoothness of the action unless the metal surfaces are rough and not broken in yet. I also suggest that you apply a thin layer of CLP or other corrosion/rust treatment to the rest of the metal surfaces of the entire rifle and wipe off any excess.

I hope you all find this information useful. If you have any questions, comments or suggestions, please feel free to e-mail me at tonyben3@gmail.com .

Happy shooting!

Tony.