M14 Maintenance, *part three*

[bits and pieces]

Glen Zediker

Keep putting grease on. Keep wiping grease off.

That is essentially the maintenance routine on a 14. The point is to always have something doing with grease.

Note: M1A™ is a trademark for the Springfield Armory® version of this rifle. I prefer to use the "M14" label to identify this rifle type. While it's true that an M14 may be a select-fire weapon, I'm obviously talking about semi-automatic-only competition rifles in this here.

If you've read the other two articles, you've now got an M14 with a shining barrel and a sparking gas system. Well, maybe not, but both components are serviceably clean.

As was mentioned when we discussed gas system maintenance, the best schedule to put most of the following on is after every time you bring the gun back from the range (match or practice). Some things, certainly, don't *need* to be touched up that often, but over-maintaining a rifle is generally preferable to under-maintaining one. Besides, you'll find that, once you get it started, keeping your gun on a tight maintenance schedule will erase the question of when different things should be done (or when they were done).

Good Old Grease

The only suitable lubricant for the majority of M14 applications is grease. Oil just won't hang in properly to do the job, and it doesn't work as well as a "cushion" against high-pressure metal-to-metal contact. Grease is plenty slick enough to provide smooth operation, but it's when the bolt cycles, for instance, and its lugs get crunched that grease is necessary to protect the parts.

A light coat of grease directed exactly to the point of metal-to-metal contact is all that's necessary. Oil, even when used sparingly, can spread to areas that don't require lubrication. If you see a rifle that's lubed properly, it has a "dry" look, and that's because the lube has been applied only where metal-to-metal contact points exist.

Plastilube® used to be, and may still be, the staple service-rifle grease. It's been with us a while. There are plenty of robo-lubes on the market, and a lot of folks use them. Most work well enough but tend to thin out in Georgia. All things considered, I don't think that Plastilube® has ever hurt a rifle, and I'm not sure that a blast furnace can make it run. It's the proper stuff.

I've always used a little paintbrush, like those for model-building, to apply grease. The brush works well because it near-automatically applies the right amount. And the "right amount" is what's necessary to give the parts a visible, but thin, coating.

Bolts and Rollers

Do a swab-job around the locking lug recesses and area where the roller fits into the op-rod to clean out all the old lube. Then, to make a long story shorter, continue to wipe off all the accessible grease you put on previously [we'll talk later about where to put the fresh grease, so you can work backwards if needs be]. You should replace this

There can be a contradiction of function in lubricating a rifle. Too little lube and metal-to-metal contact can, at worst, result in galling, which destroys part tolerances, or, at the least, excessive wear (which, over time, has the same effect). Galling occurs when enough friction between parts results in one surface "sticking" to the other. The effect is a pitting-type damage to one, or both, parts. If you've ever filed on a piece of aluminum you've probably seen this effect. On the other end, too much lube attracts grit, which, obviously, is contrary to the function of lubrication. Overlubing parts, even with grease, can also cause the lube to end up where you don't want it -- on the bedding, trigger mechanism, or inside the chamber, for instances. If you've ever fired a rifle and had little specs of lube end up on your glasses, you've got too much lube in the wrong places.

lube each cleaning session. Grease will definitely "hold up" for more than one match, but when it gets dirty it can become an abrasive carrier. It's a slick abrasive carrier, but grit can still cause wear nonetheless. You don't have to worry now with any "hidden" areas that require a gun break-down to access; the main concerns are those areas immediately around the firing mechanism as they get dirtiest fastest.

Find a way to get into the tight spots. A real tiny screwdriver or spray-can tube behind a cleaning patch does pretty well, as can a pipe cleaner. It's really not recommended to use bore-cleaner-type solvents for grease removal because the same agents that break down the grease continue to stick around to break down the next coat. Just wipe it out. (For the big annual out-of-the-stock and down-to-the-metal cleaning, something like Shooter's Choice® Gun-Scrub™ will strip the grease without leaving any residue.)

And make sure you clean out the extractor and around the bolt face. Brass chips can collect around these areas, so keep an eye out. It's happened before where brass chips have frozen firing pins, which can cause a slam-fire.

Squeeze the stock forend and front handguard retainer with your thumb and forefinger so that the stock ferrule moves away from the gas cylinder front band. Be careful to not put any pressure on the handguard as it may break loose (if it's glued, as it should be). Run a patch into this gap to remove the grease. Some recommend using crocus cloth to polish the stock ferrule, but that's optional. After each part is wiped clean, add back a fresh coat of grease. This area not only needs to be maintained, but needs to be consistently maintained. Zeros are at risk otherwise.

Brush off the sight black each time out, if you use calcium carbide. If you don't, it can corrode your sights.

Relubing

Take your paintbrush and coat the bolt roller, roller recess in the op-rod, bolt lugs, and add a little to the underside of the bolt (through the magazine well). Again, the correct amount of grease is a thin film. Since grease is going to stay where you put it, that's all the parts need. Brush a little into the op-rod slot on the right side of the receiver and a touch on the barrel to cushion against op-rod contact. That's about it for the short-schedule lubrication.

Other areas that need lubrication should, as mentioned, be treated when the gun is broken down. Some of these would, ideally, be cleaned and relubed each cleaning session; however, there's bound to be more harm done than good by breaking the stock away after each match. When you do have the gun apart, clean and relube the spring guide, op-rod, and op-rod guide, and swab out the receiver. Here again is why to use grease: grease will stick around until it's wiped away.

Some people recommend greasing the gears, rails, and other moving parts in the rear sight to curb wear, while others caution that practice can lead to imprecision in the sight. If you do lube the inner works, degrease and reapply once a season to keep the grease from solidifying. It's a good idea to lightly coat the underside of the sight base;

One thing: Be wary of lubricants that have "suspended" additives, such as moly, teflon, or graphite. This advice is for lubes used around the bolt area (not triggers). What gets around in this vicinity will end up in the rifle chamber.

this has cured a lot of sights of "sticky" wind movement.

Lube the fool out of the hammer and sear engagement point (the hooks). I use moly grease. Friction Block™ grease (not oil) works well if you can find it. No fooling, though, good moly (like Neco® Moly-Slide™) can actually change trigger pull weight. I heard for years all about the evils of greasing trigger parts and believed the majority of it, but, folks, despite what some (me included, at one time) said about grease actually not changing trigger weight hain't tried the good stuff. It does work. Occasionally hose out the entire trigger group and relube the fool out of it. It gets dirty and grit and finely fitted areas don't mix well. (In something like an Anschütz, lube on the engagement surfaces is *verboten*; the lube can actually increase pressure between the parts, resulting in a harder pull.)

Depending on where you live, you may or may not have to apply an agent that functions as a rust-preventative. I've tried some of the spray-on, leave-on types, like Shooter's Choice® Rust-Prevent™, and they seem to function fine. It's recommended that you spray such things on a cloth and then wipe down the metal rather than spraying directly on the gun. All that I've seen contain solvents (petroleum distillates), the haphazard application of which may mess with the bedding or stock finish.

The most important thing, though, is to get any corrosive agents off the metal before the gun is stored. Most times, the corrosive agent will be sweat. Salts from perspiration cannot, chemically, be dissolved by oil or solvent. Water will break down salts, so as funny as this may sound, a patch wet with water should get the prints first, followed (certainly) by a wipe of whatever you're using as an anti-corrosion agent. Oil over fingerprints retards corrosion only because it constructs a barrier against the atmosphere.

Bed-check

The most important maintenance for bedding is preventative maintenance. The cautions given to not allow solvents or lubricants to come into contact with the bedding are done so because they will soften it. When the bedding softens, recoil can pack it. Some agents work faster than others, and strong solvents like Shooter's Choice® have a more rapid effect than something like Plastilube®. Left to sit, however, most any chemical we use can harm bedding.

It is inevitable that some lube will come into contact with the bedding, though, and this can be removed with detergent or acetone (carefully) when the gun is apart. But in a practical sense, by the time your rifle is ready to be broken down for a cleaning, it probably could use a wipe-coat of epoxy to refurbish its bedding. This area of maintenance is getting a little outside the scope of this article, but, seeing how it has to be done so often, re-bedding a gas-gun should be part of your routine maintenance. For a non-lugged gun, 1500 rounds is about as far as you should let it go; a lugged gun can last a lot longer (but some don't).

A broken firing pin is one of the most common parts failures on an M14. The best insurance you can carry with you is a spare fitted bolt. That way, you can do an on-line repair (when permitted) without missing too many beats. Some people recommend just replacing the pin ever so often. How often depends on how many strikes it has to endure

during a season, but once a season is probably adequate. And don't lube this part or the track it rides in. Instead, clean it out thoroughly when you replace the pin or otherwise take down the bolt.

Brush off and wipe down the sights each use to remove the sight black. I'm not sure about the spray-on stuff, but the "real" calcium-carbide variety can cause corrosion if it's left too long.

Magazines get dirtier than you might think, and it will never hurt to disassemble and clean them once in a while, but don't lubricate the magazine parts. You don't want grease to get on a cartridge case (whatever gets on a case gets in the chamber).

Get the sticky-stuff off the forend and buttplate, and wherever else you sprayed it, after each match. Okay, some of you like to let it build up (or just hate to clean it), and it will certainly not affect your rifle's function. So the Oscar Madisons out there may freely disregard this portion of the cleaning routine. But, in leaving adhesive on the gun (or gear), you are headed for a genuine mess that tends to get messier as time passes. The best time to ever clean this stuff is as soon as possible after it's been put on. After it sits a while, it sets. After it builds up enough layers for long enough, and this is mostly true for the glove and coat, you will find that you're actually using more and more of it to maintain adhesion.

There are numerous "light-weight" parts -- those that have to move freely and don't function directly with the firing mechanisms -- that will survive nicely with a (tiny) drop of oil. Something like the maga-zine latch or the bolt stop (but not its engagement point) probably don't need any lubrication, but a drip of oil won't hurt.

Use denatured alcohol to strip it away, or purchase the specialty stuff as bottled by Creedmoor Sports®. Old bedsheets work well as a carrier for the solvent since they don't leave lint.

Finally, when you have the gun apart, check its parts over thoroughly for wear or cracks. Some areas to pay particular attention to: check the front band to make sure it's still tight on the cylinder; check the bolt roller, extractor, and flash suppressor splines for cracks; check that the bolt stop still has a straight edge; check the windage knob screw for adequate tension; check the tab on the bottom of the op-rod, and once-over the whole assembly, including the spring and guide. It's normal for the op-rod tab to peen, but it should get as beat as it will get in the first 100 rounds; notice if it's getting worse. It's a good idea to also check the rear sight accuracy, paying special attention to left wind movement and elevation movement.