

## LUBRICANT CHARACTERISTICS, PERFORMANCE & COMPARISON

Taken from the [www.PFCRountable.com](http://www.PFCRountable.com) Forum

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Hey all,

sorry it has taken me forever to get this posted up on here, but as I made first mention of it in February, I've essentially run out of excuses... so here goes....

I set out to compare a number of lubricants on a series of weapons that fell into the categories of both rifle and pistol, and loose and tight in regard to their tolerances. Weapons used were: colt AR15A3 16" (tight), LMT M4 10.5" (tighter), Yugoslavian AK74 (loose), glock 21C (loose), sig P226 .40 (medium), springfield TRP .45 (tight), nighthawk GRP .45 (really tight). Some of these lubricant were also tested on M249's, Mk46's, M60's, Mk43's, Mk48's, M240(B,D), MP5, G3, Hk69, & the M203. where applicable these results will be mentioned, but as these systems do not pertain to most readers, much of the info will not be understood, nor is it applicable.... certain heavier systems have VERY powerful springs, variable gas regulators (allowing for operation when sluggish or dirty), loose tolerances, and even operation that is manual... in the case of the M203, it is the operator who does the real work, and thus problems caused by poor lubrication are often attributed to the user failing to use the "manhand." thus results can be confusing or skewed to support or attack certain products.

some more open minded readers may rush out and try what's listed here while others still may defend their product of choice till the bitter end... and that's all fine... I'm not a scientist, I didn't take barometric readings, and I don't have any graphs, or charts either. I simply learned what works great, what sorta works, and what sucks. I strongly encourage you to do your own testing.

CONDITIONS: despite what people believe, it does get cold here in Vegas... not Minnesota cold, but cold. Over this past winter, I got out and trained on a few days when the mercury hit 20 degrees and got some great lube data. We also have blistering heat... during a recent wicked wave a month ago we had sustained range temps at 120... So hot that students were getting second degree burns from their carbines, while uncrimped primers were popping like crazy... we have brutal fine dust that swirls and blows on its own, if you're not rolling in it while doing the stress course or being evac'd as a simulated casualty. On the road we deal with rain... pouring rain in Texas and Michigan that turns ranges into reflecting pools. All of this has provided a wide spectrum under which to test, observe & conclude.

PRODUCTS: CLP/break free, militec-1, kleen bore, hoppe's elite, rem-oil, ballistol, white lithium grease, marine pal, tw-25b, xf-7, wd-40, castrol 10w-40 synthetic

CLP/Break Free \$7.50 (4oz): somebody out there should be court martialled and charged with many a service members death for the adoption of this horsesh!t oil product. It doesn't clean, it barely lubricates, and protects only by laying down a gummy layer of Teflon which in turn creates hydrofluoric acid as it burns off. Cleaning post-op is in no way made easier. If you have any, use it on the rusty hinges on your front gate or dog kennel.

Militec-1 \$14.95 (4oz): a very good oil product that worked on all firearms tested... cycling was good, cleaning was easy, thickness of oil made it stay put relatively well. Also used on heavier and crew served weapons with positive results. Seeing excellent results in the GWOT.

Kleen-Bore Super Lube \$6.97 (6oz): this is very thin aerosol garbage that goes everywhere, and has teflon much like CLP... take the money you save from not buying this and waste it at starbucks.

WD-40: this product is 'very' thin and is composed mostly of kerosene... so we know it won't

stay put, and it can ignite if exposed to heat, flash etcetera. It works OK for cleaning but forget about it as a lube... the WD stands for Water Displacer and 40 means formula #40... That being said, if your weapons ever become soaked, immersed, or you partake in amphib ops, there are few products better than WD40 to get out the water, and protect the guts. If you're bored here's a good use: <http://video.google.com/videoplay?docid=-3874058244391438463>

Hoppe's Elite \$10 (4oz): an oil with performance similar to Militec but thinner and runnier... nothing impressive.

Rem-Oil \$8 (4oz): thin, runny & full of teflon... stay away.

Ballistol \$50 (1 gallon): this oil was invented during WWI by the Germans for use on their machine guns... it is still around and is great. There is a particular federal agency that uses it on pistols, rifles, precision rifles, crew served weapons, and light machine guns. On all it works great... to quote Pat Burke, the stuff smells like "ripe feet and ass", but it really works.

White Lithium Grease \$5 (2oz): so, I'm in Home Depot, and I know that a lot of firearms lubricants are throwing around the term "lithium grease." so I buy a big tube of this stuff, and proceed to run it on all the guns... on the loose weapons (Glock and AK) they work just fine... real solid application, stays put, and runs well... in fact the grease is so thick, it actually feels as if it has tightened the actions a bit. soon I learn why as I run it on my GRP 1911 & M4 in the 20 degree cold... this crap actually makes my 1911 slide cycle so slow at about 20 rounds that I can hear it click back into battery after the shot is gone. At 100 rounds the weapon is so sluggish it stops running. The M4 takes a few more rounds, but we soon reach the same demise. Good for the loose weapons and your trailer hitch but a total liability on anything snug.

Marine Pal \$7.50 (8oz): a well known product to troops from the Marine Reconnaissance Field and NAVSOF. This is penetrating and protective oil specifically designed for work in harsh saltwater extremes... works well on all weapons. They are currently offering new oil called Desert Pal, but I have not yet used it.

TW-25B \$20 (4oz): nicknamed "whale sperm" this light, white grease is the manufacturer's recommended lube for both Sig Sauer pistols & FN crew served machineguns... it is also used on the Dillon aero rotating cannon. the substance stays put, and cleanup is a snap... I have found that with virtually all weapons there is a point where the grease becomes so carbon laden that it essentially turns to mud, and this threshold is lower than some oils... but overall a good product.

XF-7 \$13 (2oz): made by MD Labs, which is the maker of Mad Dog knives, this organic lube is as strongly loved by some as the devotees' obsession with the top notch cutlery... simply put, this stuff is thick and stays put. It runs great on loose pistols and rifles, but jammed up my M4 and 1911's. The maker recommends using very little, but I used the Goldilocks approach and all three failed. On another note I use this stuff to protect my Strider knives and it is great!

Castrol 10W-40 Synthetic: so back when I started doing these tests, an engineer/ gunsmith friend of mine (who is a Ducati freak) told me that he runs all his fancy weapons of some really high end motorcycle oil. he further explained that most gun oils are just a grossly overpriced synthetic with some bogus magic ingredient... I've been kicking myself ever since as I realized that this stuff works amazingly well on all weapons I use it on. If it will stand up to the heat and abuse of an engine, a 9mm is Child's play. And comparatively speaking it is uber cheap & available.

I really want to buy a quart of Syntec 20W-50 and try it as it's thicker and supposed to be really high performance, but if it ain't broke, I don't think I want to fix it!

So there you have it... draw your own conclusions, and hopefully improve the performance of your weapons.