

The Los Angeles Silhouette Club

Bullet Lubes

By: Jim Taylor

All bullets need lubrication, some more than others. I know it is commonly taken that jacketed bullets do not need lube. If that were the case however we would not use oil in the bearings on our cars. Fire a few thousand jacketed bullets through your barrel and watch it turn copper-colored in the rifling and then tell me jacketed bullets don't need lube. They do, however, ***they need it far less than lead bullets.***

A few years ago I ran a test - lubricating jacketed bullets. I did this after I pulled some early Winchester .45 Silver Tip bullets and found that they had a grease groove in the jacket!! Hmm....does Winchester know something I don't? So I gave it try.

TEST 1 - fired in a Ruger .45 Colt Blackhawk 7 1/2" - using WW cases with CCI LP primers - 22 gr. H-110 and the Speer 300 gr. PSP bullet. The bullet was seated out of the case as far as possible, crimping into the bottom crimp groove.

No Lube

Load #1 - 974 fps	Load #2 - 815 fps	Load #3 - 1003 fps
Load #4 - 993 fps	Load #5 - 987 fps	Load #6 - 896 fps
Average of all shots - 944 fps		

Next I fired the 7 1/2" 454 Casull with the same bullet loaded over 30 gr. H-110, using CCI #400 Small Rifle Primers.

No Lube - average velocity 1698 fps

Lubed with LEE Liquid ALOX - Allowed to dry 24 Hrs. before firing

Load #1 - 1027 fps	Load #2 - 1075 fps	Load #3 - 1063 fps
Load #4 - 1062 fps	Load #5 - 1055 fps	Load #6 - 1000 fps
Average of all shots - 1046 fps		

Lubed with LEE Liquid ALOX (dried 24 hrs. before loading and firing) - average velocity 1775 fps.

Fired for accuracy from rest

What did it prove? Bullets going down a bore have friction. Something we all know. Often we do not think about jacketed bullets and barrel friction though.

What little testing I have done leads me to

believe that you can have too much of a good thing. HOWEVER - Accuracy is not always enhanced by better lubrication. Bullets apparently need some "drag" as Col. Harrison proved many years ago.

Lead bullets

Reloaders have always known that lead bullets need lubrication. Dry lead on a dry barrel causes real problems. Once lead starts building up in a bore it can

continue, aggravating itself. A man once brought Dad a pistol and asked him if he could clean it. It was an H&R .22 revolver. The bore was so leaded that it would not allow a .22 caliber brush into it. The guy had been shooting it that way for some time. He said it was hard to hit anything with it and figured maybe it needed cleaned.

Dad and I found some of the bullets that had been fired from this gun. They were squeezed down to about 15 caliber and were real long and skinny. Dad got the gun clean in about 10 minutes. His secret involved using a torch... *after* the owner had gone home.

The list of commonly used bullets lubes over the years is interesting:

[US Army 1855](#) - 1 part beeswax, 3 parts tallow

[US Army 1861](#) - 8 parts beeswax, 1 part tallow

[US Army 1873](#) - 8 parts bayberry wax, 1 part graphite

[US Army 1880](#) - Japan wax

[Sharps Rifle Co. 1878](#) - 1 part beeswax, 2 parts sperm oil.

[Maynard Rifle 1890](#) - 1 part beeswax, 3 parts tallow

[Marlin Firearms Co. 1891](#) - 1 part beeswax, 4 parts tallow

[S&W 1891](#) - tallow

[H.M. Pope 1900](#) - 3 parts mutton tallow, 2 parts bay wax, 1 part beeswax, 1 part steam cylinder oil, .2 of 1 part Acheson graphite. (The bay wax can be omitted)

[A Large Police Dept. 1962](#) - 1 part beeswax, 1 part paraffin wax, 1 part cosmoline.

roll the cylinder around and fire. They worked just fine...except the gun got slick after a little while. I tried Vaseline, brake fluid, Butch Wax... it all worked OK if you fired the cartridge right away. Left too long the oils would "creep" back into the case and kill the powder. But it did show what would keep a barrel from leading.

Dad and I did a series of tests years ago to find out what would work for bullet lube. We wanted a lube that was easy to make and use. It was for loads under 950 fps in sixguns - practice loads. We experimented with a number of things and found that you could lube a bullet with a number of substances. For instance, I took some cartridges which had the bullets loaded "dry" - no lube on them. I would dip the nose of the bullet in motor oil, shove the cartridge into the chamber,

Eventually we settled on crayons. Yep. We melted crayons in a skillet, tossed in a handful of bullets, rolled them around until they were covered, dumped them out on a newspaper and let the wax harden. I would shoot these in the .357 and .45 Colt at speeds up to 800 fps without any leading.

BUT...since Lee came out with their Liquid Alox I have never used crayons. The Liquid Alox is much easier to use and a much better lubricant.

Alox came into use after Col. E.H. Harrison did all his testing for the NRA years ago. Usually found in a combination with beeswax, Alox actually is the name of a company in New York that produced lubricating substances and corrosion preventatives. In the 1970s there were more than 2000 formulations of "Alox" lube. Col. Harrison ran thousands of tests with different combinations and eventually found that Alox 2138F when mixed with equal parts of pure yellow

beeswax produced the best bullet lubricant until that time. This is still the basic formula for all "Alox" bullet lubes.

His tests are very interesting to read as some of the "slickest" lubes gave the worst accuracy in sixguns. It's been out of print for years but if you can find a copy, the tests are in the NRA-published book "HANDLOADING".

Until the advent of LBT Blue and Apache Blue cast bullet shooters either used some Alox-type lube or made their own. Some of the dedicated cast bullet target shooters have their own secret formulas that they swear by and guard with great diligence lest a competitor get hold of it.

I have used Apache Blue for years now...in rifles and handguns... and I will not use any other lube. I am used to it and so are the barrels in my guns. Oh, I shoot some other lubes if I get bullets from a commercial caster... but for the most part I only use the Apache Blue. And yes, Paco gave me some for free as a "going away" present when I moved from Arizona to Missouri in 1989. He gave me several large cans of it. I only have enough left to last me about 4 years and am not sure what I will do if I ever run out!

[Jim Taylor Article Index](#) [Complete LASC Article Index](#)

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