

Barrel care for the ageing rifle bore.

By Jim See

I often get questions about barrel care in a precision rifle barrel, and the general answer is similar to much of the professional advice out there.

BUT, not all barrels should be cared for the same and as a barrel ages with use, we need to look at some things to increase the useful life of the barrel and sometimes "routine" care can kill that old barrel pretty quick.

The 2 pictures are of the same barrel before and after copper cleaning, at a point about 3 inches in front of the throat. What you see in the first picture is what I would call considerable copper fouling for a premium cut rifles barrel, IF this barrel was in the FIRST HALF of it's life. This particular barrel is from a 6.5x47 with about 2500 rounds on it so what we see here is actually "normal" for a barrel which is well shot in.



When we look at the second picture the copper has been removed and is absent. Which is why we clean barrels in the first place, right?

What you will notice from looking at both pictures is that the copper fouling was actually filling in cracks and voids in the barrel steel. Which unlike excessive copper fouling in a new barrel, this is a good thing in a well used barrel.



So now you might be asking well great what the hell is the point of showing us this!!

What I have found was that as a barrel gets some where past it's half life, we can and should stop using aggressive copper solvents on it. As our barrel surface fractures and becomes more porous, the copper actually helps hold the steel in place.

Yes I said it the copper holds the steel in place.... It acts like mortar holding together a brick wall.

When our barrels have considerable checkering in them we should not remove the copper....WHY.... what will happen?

One of two things, if our barrel is not too severe weather checked. In the next 20 rounds fired our cracks will fill in with copper, in the process we may loose a few bricks but for the most part the voids will again fill, and accuracy will be maintained.

OR.... Our barrel will just start losing all its bricks, large "flakes" will come out of the barrel and it will for all intents be toast. I have seen barrels shooting 3/4 moa get a good copper cleaning and the next range session the first 5 shots go into 2 moa and the next 10 will be over 3 moa or worse.

I had a friend who showed me the proof on my theory some 10 years ago. He had a factory 25-06 that had upwards of 3500 rounds on it. It looked similar to the first picture but with a lot more checkering and "mortar". His normal cleaning procedure was a patch or two of Hoppe's and then dry the bore and shoot. He bought some Bore Tech Eliminator and I told him. "Do not use that in your 25-06 or you will ruin it" 3 weeks later he was in the shop with the 25-06 asking if I could rebarrel it to a 6.5x284. He said "I should have listened but after cleaning my newer rifles and seeing how much copper came out I had to clean the 25-06." It went from a 1 moa rifle to a 6 moa rifle in the next 20 rounds fired. A bore scope inspection basically showed the lands were missing in the first 6" of the bore. The barrel basically flaked off more and more with every round after the cleaning.

So what does this mean to you?

When you see the normal progression of wear indicators with your match rifle understand that the best care may be limited or no care. It is still fine and sometimes necessary to remove carbon fouling, but don't get too excited about that copper in the first 2-5" of your barrel. It's a good place for it to be.