

Sight In & Break In New Rifle

With the high cost of ammo and new rifles being purchased at record levels, I would like to share a method of sighting in and breaking in a new rifle that saves money and helps a rifle barrel hold its accuracy and cleanliness over the life of the barrel.

A caveat: this is not to replace your time honored and tested method that you like. It involves a couple of methods that work for me - that I have collected over the years - experienced at PCSC...from fellows much more knowledgeable than me. Also, I refer you to break in recommendations from the engineering department of a rifle manufacturer. Specifically, a barrel break in procedure that I live by now. It has proven to be so good that I now have rifles that tend to shoot different brand ammo that is the same power and velocity at near the same POI. These guns do not scatter group across time and barrel heating but hold a nice tight group, best for both hunting and target shooting. Here is the -

Howa Rifle Recm'd Break-In Procedure

"For the first ten shots we recommend using jacketed bullets with a nitro powder load (Most Factory Ammo). Clean the oil out of the barrel before each shot using a simple window cleaner (like Windex®) which will soak the oil out of the pores. After firing each cartridge, use a good copper cleaner (one with ammonia) to remove the copper fouling from the barrel. We do not recommend anything with an abrasive in it since you are trying to seal the barrel, not keep it agitated. (I use Windex and a bore snake after cleaning copper with Sweet's 7.62 copper cleaner after EACH and EVERY shot for the first 10 rounds)

After cleaning with bore cleaner, clean again with window cleaner after each shot. Use window cleaner because many bore cleaners use a petroleum base which you want to remove before firing the next shot. This will keep the carbon from building up in the barrel (oil left in the pores, when burned, turns to carbon).

To keep the temperature cool in the barrel, wait at least 5 minutes between break-in shots. The barrel must remain cool during the break-in procedure. If the barrel is allowed to heat up during the break-in, it will destroy the steel's ability to develop a home registration point, or memory. It will tend to make the barrel "walk" when it heats up in the future. We have all seen barrels that, as they heat up, start to shoot high and then "walk" to the right. This was caused by improperly breaking in the barrel (generally by sitting at a bench rest and shooting 20 rounds in 5 minutes or so). If you take a little time in the beginning and do it right, you will be much more pleased with the barrel in the future.

Look into the end of the barrel after firing a shot, and you will see a light copper-colored wash in the barrel. Remove this before firing the next shot. Somewhere during the procedure, around shot 6 or 7, it will be obvious that the copper color

is no longer appearing in the barrel. Continue the window cleaner and bore cleaner applications through shot 10.

Following the initial ten shots, you then may shoot 2 rounds, cleaning between each pair of shots, for the next 10 shots. This is simply ensuring that the burnishing process has been completed. In theory, you are closing the pores of the barrel metal that have been opened and exposed through the cutting and hand lapping procedures." - Howa Rifle Company

And for sighting in, do this break in shooting with a Caldwell Lead Sled or equivalent. This procedure is best shown and explained in person but let's give it a go...

So, the typical method is shoot and note the distance a three-shot group is from the bull's eye that your scope reticle was aligned to. Then noting this windage and elevation distance from bull's eye, we move the dials on the scope the necessary amount to move the gun point of impact to the bull's eye.

Good luck...typically we end up wasting near a half to full box of ammo going too far in adjustment or not enough and in the process heat a barrel and if it is a new rifle, we overheat the barrel and are frustrated that our new gun will not shoot worth a flip, now and forever. Many a gun is sold at gun shows because it doesn't shoot worth a tinker's damn.

With the Lead Sled or equivalent we are not going to move the gun's point of impact but rather, move the scope crosshairs to the actual point of impact from the initial point of aim, namely the bulls eye.

Let that sink in a moment....

This can only be done because our Lead Sled will allow us to lock the gun down firmly aimed at the bullseye... while moving the scope adjusts.

In the next step, we are not going to count scope adjustment dial increments.

Now, with three shots having been shot at a target at 50 yards, using the Howa Break in procedure of shooting, cleaning, waiting, we lock our gun and scope cross hairs to align to the bull's eye and without moving the gun whatsoever, move the scope adjustments to bring the reticle to the center of our three-shot group. You can note the starting position of the scope dials by taking a quick photo as a reference.

Does that sink in and make sense? We are simply moving our scope view / reticle to where the gun shoots. Simple as that.

Now with a new or pasted target, shoot one shot at the bull's eye.

I will use the word "should" now.... the bullet POI should be near bull's eye.

You may need to fine tune one more time or not, depending on a bit of luck you have in holding the gun steady while you move the scope adjustments.

I have sighted in older guns that are broken in with two rounds using this method many times for hunters. It is a way I am accustomed to and have saved many an expensive Barnes, Federal Fusion or other expensive hunting round allowing it to be used for hunting game instead of hunting an elusive bull's eye.

I hope this helps. All the best,

Chuck Garrett