

How to Test a Handgun for Accuracy

Here's how to set up for accuracy testing on handguns.



March 26, 2020 By Patrick Sweeney

Ever wonder what it is like to be a gun writer? Once you get past the glamour—the sexy cars, supermodels, the private jets and the free guns—there is real work. Actually, none of the things I just mentioned has anything to do with being a gun writer except for the real work.

Accuracy testing means shooting groups. And shooting groups is the distinctly unglamorous part of writing. I can't tell you the definitive way to do it, because every gun writer has his or her own method, but I can give you the essentials and the way I do it.

The first thing you need to know is that no one is accurate and consistent enough to test accuracy without support. If anyone tells you otherwise, they are kidding you and themselves.

How do you support a handgun for accuracy testing? First, have the target in a convenient direction, distance and height above the ground. A marked angle up or down will cause you no end of problems in being comfortable and consistent in aiming.

Once you've got that handled, the wrong way is to rest the bare gun on a bare, hard support and use that as your only contact point. A hard surface runs the risk of inconsistent "jumping"—the handgun bouncing off the hard surface from the vibration of shooting.

Consistency is vital. If you have a different amount of pressure of the handgun on the surface, and a different contact point on the receiver or barrel, the handgun will bounce off of the surface inconsistently.

You also need more than a single contact point. Unless you are dead or in a coma, your body will move simply from breathing. And when seated (you do not do accuracy testing standing), your body sways from the constant corrections for balance your brain does autonomically. As you sway, the handgun will pivot around its contact patch on the rest.

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What you want to do is to sit in a position that is comfortable enough to minimize swaying. You want to be upright so your brain isn't fighting the "We're not upright, something's wrong" corrections, and you want as much contact of your arms and hands with a solid and padded surface as possible.

Most chairs and benches are the wrong height. You want one that is at chest level. For most shooters, this means you have to bring your own chair to accommodate shooting benches that are usually built for shooting rifles. My home club took the opposite approach and built a proper-height shooting bench, which I use for handgun testing, but I still have to make changes.

For the handgun rest, I use a Sinclair Heavy Varmint shooting rest. It is made for rifle use, but I find it is brilliant as a handgun rest, once I make sure I accommodate myself to it. This involves a small sandbag or beanbag.



Here's how not to test accuracy in a handgun. The gun is resting on hard surface that will permit it to bounce, and the tester's body in a contorted position, which causes the body to sway.

The assemblage is straightforward, if a bit complex, and involves old terrycloth bath towels. I place the Sinclair rest on 4x4s on the bench forward of where I'm sitting so my outstretched arms can just rest the handgun on the top platform of the Sinclair. I then wedge the beanbag in the frame of the Sinclair so it provides a stop and rest for the knuckles of my hands. Behind it, I place an aluminum case to support my arms.

I then build up layers of bath towels on the case and the Sinclair leg and beanbag so my hands are completely supported. nothing waves in the air, everything has something underneath it.

An important detail: If you are going to be shooting anything .357 Magnum or bigger, make sure the padding underneath your elbows is doubled-up. Otherwise, when the recoil hits, your elbows will be hammered down against the bench top, and that will hurt.

The setup can take quite a few minutes. I don't hurry it. With the target set up, I'll sit down, check comfort and padding, aim, adjust, aim again. I'll move the target if I have to, to get things lined up and me in a comfortable position. Only once I have the handgun on target, without having to muscle it, and my hands and arms are fully supported, will I begin shooting.

The towel directly under the handgun can get grubby from powder residue. I try to keep the muzzle forward of the towel, but revolvers in particular can shred a towel in an afternoon. That's why I scour yard sales for old towels. I buy them for a quarter each and keep the stash in my storage space.



Sweeney uses a Sinclair rest designed for rifles, and he places it on blocks of wood to raise it. A beanbag helps support the hands.

The *Handguns* accuracy standard is four five-shot groups. I do not load up a “big stick” magazine and shoot all the groups at once. I shoot five, reload the magazine, repeat and continue doing so until I have my groups. Shooting more than five rounds in a string starts to be work. Your hands will tire, your arms will tire, and your eyes will especially tire. Breaking it up allows you to rest and relax between groups.

I do not look at the groups until I am done. I don’t want to be influenced by what I see, and I don’t want to ruin a potential bragging-size group by seeing that the first three or four shots of five are in a single hole.

I do not shoot “fouling” shots between groups. Yes, changing from one load to another has the potential of the first group or two being affected by the fouling of the previous load. I have seen this in match-grade .22 LR pistols, shooting match-grade ammo from a machine rest. In non-match .22s and centerfire pistols, I am not worried about it being a problem.

What about those machine rests, like the near-worshipped Ransom Rest? I have one, I have used it, and except for the most exacting work, I find it is more effort than it is worth. For general testing of handguns, I can come close enough with the Sinclair to make the extra precision of the Ransom not worth the doubling of my time spent.

Further, the Ransom Rest, like all other machine rests, aims the frame, not the pistol. It is entirely possible that a duty-grade “combat accuracy” pistol will not show much, if any, accuracy improvement in a Ransom Rest compared to shooting from the bench. The relatively loose-on-the-frame slide and barrel can negate the extra precision of the Ransom Rest.



An aluminum case provides Sweeney with support. The challenge is to have everything just right so the gun naturally aligns with the target.

What about the various field-expedient methods we've all read about over the years? Sitting and using the knees for support or the famous Elmer Keith Roman-dining position of one elbow down and one knee for support? Those are fine for hunting and long-range plinking, but they are not consistent enough to parse the accuracy details of a handgun and its ammunition.

Which then leads me to the matter of statistics. I have had shooters tell me that when they shoot groups, they discount "called fliers" when measuring group size. I've got to throw the BS flag on that one.

When I started doing this 20 years ago, I used a spotting scope to track shots. (That's how I learned not to watch the progress, due to the frustration of spoiled groups.) After a few instances of "called fliers" that went into the group, and perfect breaks that tossed shots out of the group, I sat down and reread my statistics textbooks. Then changed my process to "no peeking."

If I have a horrid trigger press, I'll just toss the whole group, take a break, and start over. Otherwise, what I shot is what I record. Yes, there are occasional trigger twitches on my part and shots that seemed a little quick compared to my intentions. But the test is the test, and I am the one testing. I cannot completely eliminate myself from the process, even with a Ransom Rest, so I just take what happens.

There have been instances where I have had to reshoot ammo or handguns. If I am shooting a handgun that has been consistently producing groups of X size, and all of a sudden, the next ammunition shoots groups of 2X or 3X, I need to know what's up.

What I'll do is go back to a previous load. If the handgun then shoots as it had before, I know it is "ammo hate." That handgun hates that ammunition. Yours might not. It happens. If the second go-round with ammunition previously tested produces those 2X or 3X larger groups, then something has changed in the handgun. I'll scrub the bore and try again.

If the accuracy problem persists, then the gun goes back to the manufacturer for a look-see. Something might have broken. That has happened only a few times, but when it does, the manufacturer gets a chance to make it right.

Last, the distance. How far is “far enough”? Testing at “combat distances” is pointless. I have fired one-hole groups with the cheapest of handguns, shooting at seven yards. Fifty feet is a starting point, but I only use that distance for the most compact of carry guns: the snubbies and really small 9mm and .380s. Otherwise, I use 25 yards as my standard distance. If a handgun is meant to be used for hunting, then 50 yards is the next step, but I’ll check first at 25 yards just to save on walking.

I record the date, the temperature, the weather, as well as the type of ammo, velocity, standard deviation, extreme spread and the group sizes. That way I can always go back and check. “Say, your groups with the Tacti-cool mega-blaster seem a bit larger than others have reported.” Okay, a quick check and a reply. “It was 17 degrees that day. We can check again on a nice day in May.”

The gear to do all this—chrono, tripod, cleaning kit, tool kit, notebook, ammo, lunch—fills the trunk of a sedan. If being a gun writer actually were a glamorous occupation, how would I fit all that into the trunk of the Lamborghini Diablo I’d be driving?