

INCREMENTAL

load work-up

the "AUDETTE METHOD"

December 2018

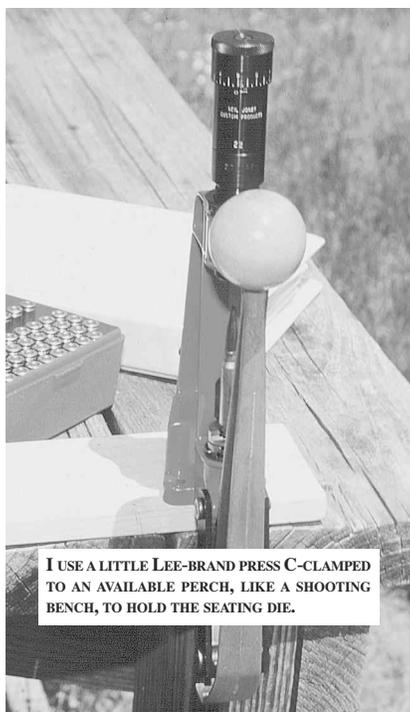
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GLEN ZEDIKER

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Despite a full tank of gas and a road map you can't really know you're in Memphis until you're finally standing at the gate to Graceland. Load development doesn't have to be random. Here's an idea that really works, and works quickly. I started using it because I got tired of bringing home partial boxes of loser-loads I'd prepared at home. Following this method you're near about guaranteed to bring home a winner (at least for that day's component experiments).

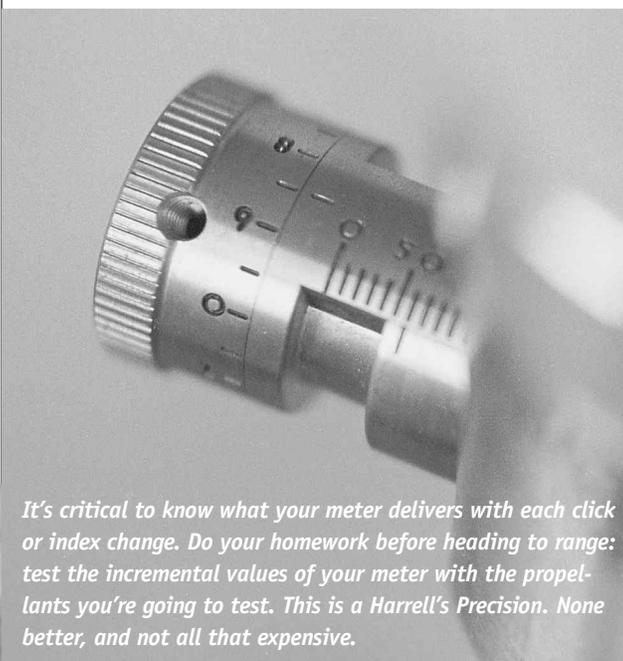
Write everything down! Start low and step up based on what the chronograph is showing you. If you're shooting .223 Remington, for example, a half-grain of most propellants is worth about 40 feet per second. That's a flexible yardstick because a little bit more faster-burning propellant usually steps up velocity more than the same charge increase of a slower-burning propellant, and it's likewise variably relative with different capacity cases.



I USE A LITTLE LEE-BRAND PRESS C-CLAMPED TO AN AVAILABLE PERCH, LIKE A SHOOTING BENCH, TO HOLD THE SEATING DIE.

TIME FOR LOAD DEVELOPMENT?

The "Audette Method," named for the late Creighton Audette, works well to get things started, and, hopefully, finished. Many call it "incremental load development." The sole variable is the propellant charge. The idea is to set up a target (and a chronograph) and then incrementally increase propellant charges over a chosen number of test groups. These groups are fired on the same target, same holding point (no sight changes, no pasters). I suggest 300 yards. You won't see much tangible feedback from this means of testing at 100 yards. **Important:** establish a starting and stopping point for the charge weight, and that's a big function of the chronograph. A spotting scope helps distinguish the groups.



It's critical to know what your meter delivers with each click or index change. Do your homework before heading to range: test the incremental values of your meter with the propellants you're going to test. This is a Harrell's Precision. None better, and not all that expensive.

It's way on easier to load these test rounds at the range rather than work up the increments at home prior. There's an article on site about that also [HERE](#). Take a meter (that you've tested to know the incremental values of each index mark or click) and a bullet seating die and a supply of primed cases. I suggest going up 0.3-0.5-grain steps. Again, the point to doing this is finding a load that's going to give consistent performance with no surprises. Based on the relatively small velocity change in 0.10

grains, for instance, it's a false assumption that hitting the pressure ceiling at 24.6, for instance, means that 24.5 is perfectly and reliably safe. No it's not! There can easily be that much effective change, up or down, in nearly any two rounds and certainly on any two different days. Going a half-grain is wise. Pressure sign? Come off a "whole half." And, yeah boy, that's another article itself. In fact, I use 0.30 increments because that's two clicks on my meter using my favored propellants, but they're each a little different. Do your homework! Throw and weigh charges and, of course, write it down!

Creighton did this one round at a time, but let's go ahead and shoot 3 per step. As the propellant charge increases, impacts on target should get a higher and higher and there will be points along the test that show tighter groupings. There ideally will also be a stretch where accuracy and elevation of a few sequential workups are coinciding: all the groups are small and contained in close vertical proximity. Creighton said that pressure symptoms

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If it would only always work this way... This actually did work as shown, this time, so I captured and recreated it for posterity. The numbers on the left represent approximate propellant charge weights and the lines each indicate one click on my powder meter, a value about 0.15 grains of the propellant used in this test. Going up two clicks at a time for eight tries took me from 24.0 grains to about 26.0, which is a good range from a reasonable starting charge to pressure ceiling. I didn't add in velocities since that's inconsequential to this illustration, but will say that "8" was too much and I settled on "6." To make more sense out of this illustration, that ended up being 25.5 grains -- step 6. I also went up using three rounds and skipping ahead by adding more clicks to the meter after viewing the (low) speeds on the first three groups (that's why there's no number 4 step; I went from step 3 to step 5). This has a lot to do with intuition sometimes.

Point is, and should be, that here's how the "Audette Method" is supposed to work: impact elevation on target goes up (these were fired at 300 yards) with charge increases, groups get smaller (hovering around two inches for this test) and stay small, and then elevation begins to stabilize. Choose within this range. Then it's a "sweet-spot" load. If this happens for you, ask for no more!

When you're "done" and have a winner, and runners up, fill another case, cap it with masking tape, and make a note. That way you can confirm the charge back home.

CLICK HERE TO READ AN ARTICLE ON LOADING AT THE RANGE.

define the upper limit, of course, and that looking back "down," as it were, on the progress of the incremental build up there will be an area where impact clusters are similar and pressures are workable. Hopefully there will be at least two charge increments represented, and more is better. If it's showing this pattern, then choosing something from that range gets a load that's accurate (number one) and not "sensitive," meaning that variations in temperatures and so on aren't likely to push it over pressure or

mutate its accuracy. That, again, is suggested by seeing vertical consistency over more than one incremental charge work up. Choose an upper, lower, or middle charge representative from this cluster, and upper-middle usually appeals to me.

That method sounds reasonable, and it is! It doesn't always work perfectly, at least not with every propellant, but it's something concrete to follow. If this method doesn't "work" then the next test should be with another propellant.

Any incremental test should at the least show a step or two that deserves more pursuit, and then my test groups are 10 shots. No kidding, you can wear out a barrel testing. The better you know your rifle, and yourself, the fewer test groups you'll need to fire before you call it a day. At the least, though, I want to see consistent performance over at least two 10-shot groups with any load before leaving the range, if there's an idea in mind that I might come back and try it again. Then I will. I might then also want to try a bullet seating depth experiment. I've usually settled on a primer and case and, of course, bullet. Those things, certainly, can be the focus of another trip. Just keep it fair (to yourself) by staying in control of variables, and that means introducing one at a time.

I usually take no more than two propellants. Again, experience. Even if starting on a brand new cartridge, I don't take the whole medicine chest. It's easy enough to get a pretty good idea, if you don't have one already, about gauging chances for successes over a narrow range of propellants. If the whole point is to test a new propellant, bring some of the tried and true to compare them that day. The reason is to make it a truly fair comparison, on that day.

