

Calipers will measure inside things too, and will do so well enough to check case neck i.d.s. They'll also measure depths, when needed. About the only thing I ever do there is check primer pocket depths. These measurements, by the way, are usually only taken on new and then once fired cases for a record. Since I use a uniformer all the time, I'm not always sure why I record them, but I do.

The tip portion is thinner on most calipers. Don't use it much. It's intended to measure a smaller area and will, but it's not there for case neck walls, bullets, or anything similar; there are other tools for that. It's easy to tip the item and throw off the read. Calipers don't measure right unless the part being measured is parallel or at a right angle (depends on how we look at it) to the jaw flats. Most usually, measure what gets measured with calipers across the wider center area of the jaws, like the "overall" outside diameter of a case neck when selecting a sizing bushing. Of course, if someone wants to check all points up and down a case neck, then that's what the skinny end will do.

Micrometers

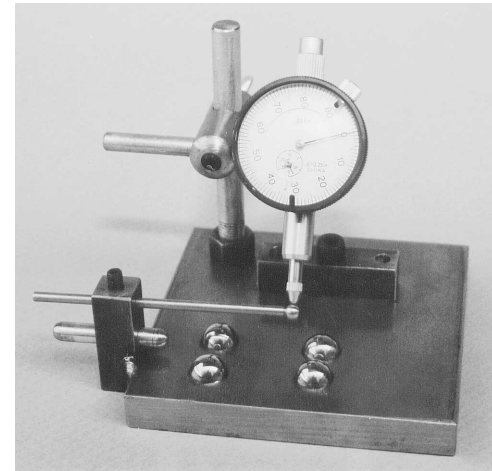
These are higher precision and more specialized than calipers. A "standard" 1-inch (capacity) mic should have carbide faces on the anvil and stem and read to 0.0001. These can be used to spec a lot of gaps, but aren't nearly as necessary as calipers as part of a handloader's kit. They're more valuable to a gunsmith probably than to a handloader, but the extra tick has its place. Things I measure with them are bullet diameters (just when I want to know), case heads to check expansion, expander buttons and mandrels, trigger pins, and so on. If anyone wants to gauge pressure by case head expansion (good idea) a standard mic is the best good way to do it. A locking mechanism is good since that shows comparisons easily if someone is gauging bullets, for instance. The carbide surfaces prevent wear when used as such.

The other form of micrometer we might care to know about is an inside, ball, or tubing mic (all the same thing). These are built to measure thicknesses of tubular objects and, therefore, should do the trick on case neck walls. Matter of fact, that is really the only tool anyone will catch most Benchrest shooters using for this operation (with a

An inside or ball micrometer has a round anvil that lets it measure the thickness of a tube. Since the primary use of such a micrometer will be for neck wall checks, this is a nice adaptation from Sinclair®. They took a Mitutoyo® head and mounted it on their own design fixture for measuring neck wall thicknesses. The offset anvil will measure the full length of the neck. It sits on a heavy steel base so isn't near about as tedious as a hand held mic. It's still tedious but probably not compared to the time anyone who wants one spends worrying about how dreadful their case necks must be.



Sinclair® makes a nice dial fixture for measuring wall thicknesses. It works in the same form as an inside micrometer in that it has a round "anvil," but uses the dial in place of the micrometer shaft to get to the reading. It will very quickly and easily show wall variations by checking the case at three or four points around the neck.



My old X-Ring gage has this as one of its many features. It's the Swiss Army Knife™ of handloading gages.

[Hint: if you're using such a tool and see the same thickness on opposite sides of the neck, it's good to go. That case neck will tend to size and hold straight regardless of what the other two quarters show, within reason.]

few exceptions). This is all it does for the handloader. Buy it if you buy in to the need for it.

Always hold this tool cradled in one hand and operate the thimble with care. Good mics usually have a ratcheting mechanism that releases (like a torque wrench) when measuring contact is met. Keeps us from messing it up, which is good because good mics are never given away in cereal boxes. Actually, though, they cost less than equivalent quality calipers, just won't be used near as much and, therefore, aren't on a par with value for the most of us. A good enough micrometer can be had for about twenty bucks. I like the Mitutoyo® digital read for six times more.

Dial Fixtures

Sort of a catch all heading, that, but these are tools built for handloaders that encompass a dial indicator as the reading instrument. Anything with a dial indicator is way faster to use than a geared tool like a caliper or micrometer and they're accu-

rate up to the limits of the dial.

Dial indicators will, indeed, measure things in numbers, but they also show comparisons, and I like them for that. The extent of whole-mark accuracy is limited by the dial indicator, and most are marked to the nearest thousandth. If someone is neck turning full circumference and feels the urge to know ten thousandths, then a micrometer is the right and only tool, but if he's using one looking to find a few dozen unturned cases that show 0.0001 variation, keep looking.

Do-it-all (or much of it) fixtures are popular and productive tools. Most revolve around (ha) a concentricity gage for showing runout, and some incorporate stops to show case wall thickness, case headspace, and so on. I won't say about most since I haven't used most, but they're all about the same and will give anyone enough to fret over. As with many things though, anyone getting specific usually gets more utility from specific-purpose tools.