The Boremaster Shotgun Gauge

April's column about the Shotgun Combo Gauge created so much interest among readers that I decided to test another of the products that this company makes—the BoreMaster. Both are very interesting products made by the Robert Louis Company.

I have used the Stan Baker Barrel Reader for years to measure shotgun bores and chokes, fixed as well as screw chokes. This is one heck of a tool but the BoreMaster can do even more. I've been testing the BoreMaster for a couple of weeks, and am certain skeet shooters will be interested in this product.

Powered by a tiny watch-type battery, the BoreMaster gives digital readouts, which means top precision. The main product is the handheld tool, the actual BoreMaster. The BoreMaster has an "off" and an "on" switch, as well as a "zero" switch. The device can measure in either inches or millimeters. There are good directions for the product's use, plus an instructional DVD.

Holding the BoreMaster vertical in your right hand you slide the black portion upward with your thumb until the lower steel measuring arm (to the left as you hold the unit in your right hand) passes under the top steel measuring arm. You then slide the 12 gauge calibrating ring on, in between the two steel arms. Release your thumb pressure to allow the two arms to encounter the inside of the calibration ring. The 12 gauge calibration ring is .725 in inner diameter. You can also purchase a .625 calibration ring, good for measuring 20 and 28 bore shotguns, and a .413 calibration ring good for measuring .410 bores.

You set all three calibration rings the same way. For practical purposes let's look at the how-to for the 12 gauge. If the calibration of slightly off from .725 there's a tiny adjustment screw so you can set your BoreMaster for .725 with the calibration ring in place. Mine was right on.

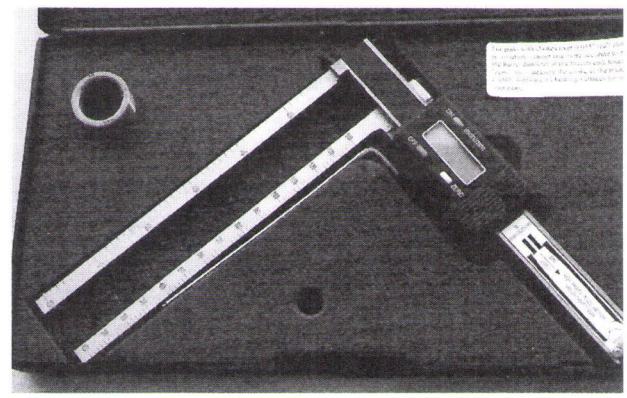
Next squeeze the two steel arms together with upward thumb pressure on the already mentioned black portion of the unit. Insert the two steel arms into the shotgun's barrel. Release your thumb pressure and you get an instant digital readout of the barrel's inner diameter. The instructions suggest that you "wiggle" the BoreMaster a bit with your right hand, which allows the spring loaded tiny roller probes on the steel arms to nestle into final position. Further, the instructions suggest that you hold the BoreMaster unit in a vertical position, i.e. the shotgun barrel(s) above. This allows gravity to help with the precision digital readout.

So that's how to measure bore diameter. To measure the amount of choke squeeze the two steel arms tight with your thumb pressure and insert the arms just a short distance into the barrel. You get an instant digital readout. Subtract the choke diameter from the bore diameter and that's your degree of choke. Say your bore is .730. If the choke measures .725 you have .005 choke constriction. You can also measure choke constriction by inserting the two steel arms into the bore —hit "zero" on the BoreMaster unit—and then slowly withdraw the steel arms toward the muzzle. With this method you actually get a read out of the choke constriction compared to the bore. As in the sample above the digital readout would be .005.

This precision instrument also allows you to measure the diameter of the chamber. Simply use the .725 calibrating ring to check that it reads out at .725, next insert the two steel arms (compressed) into the chamber area, release and the digital readout gives you the chamber diameter.

To measure the length of the chamber you slowly slide the steel arms farther toward the barrel portion, When you touch just a hint of resistance that's where the forcing cones start, so you can read the length of the chamber in inches or millimeters as the steel arms are so calibrated—one in each measuring system.

You can even measure the length of the forcing cone. Insert the steel arms into the barrel well past the forcing cones. The digital readout gives you the bore di-

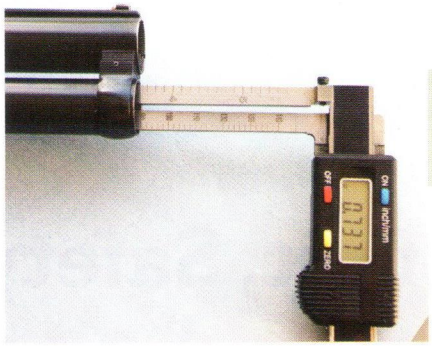


The BoreMaster in open carrying case.

ameter. Slowly start pulling the BoreMaster back toward the chamber. At the first sign of a larger diameter than the bore (that's the forward end of your forcing cone) read that length (inches or millimeters on arm) and then very slowly pull the BoreMaster farther outward until it reaches the chamber diameter. Readout can be in inches or millimeters. Compare the two measurements and that's your length of the forcing cone.

One instance where this would be important—say you bought a 2 ½-inch 12 gauge gun—the 2 ½-inches stamped on the barrels but with the BoreMaster you discover it's really a 2 ¾-inch gun and the forcing cones are longer than expected. This means the gun has had the chambers lengthened and the forcing cones lengthened. If the gun has not been re-proofed after such work, the value of the gun just plummeted, and it may even be dangerous to shoot.

Yet another measurement the BoreMaster can make for you is barrel thickness. Again, the instructions for doing this are excellent, plus this is covered in the instructional DVD that comes with the BoreMaster package. For this measuring three small additional items are packed with the product: an "o" ring, a barrel wall thickness (BWT) plastic fitting and an .025 steel calibration strip.



The BoreMaster with the two "arms" inserted in the muzzle of one barrel. Note the digital readout.

Here's the how-to. First slide the rubber "O" ring up to the top of both "arms." Next slide the barrel wall thickness (BWT) plastic fitting on to the inside steel arm, at the base, where the single needle probe is positioned. Give another wiggle to allow the BoreMaster reading to settle in. It is also suggested you gently press the BWT plastic fitting against a hard flat surface. This insures that the BWT is on correctly and measuring accurately. Slide the .025 steel calibration strip in between the two steel arms to check accuracy. Again, there is an adjustment screw if you need that. I did not.

Next slide the two steel arms on to the barrel, the steel arm with the BWT on the outside of the barrel, the other steel arm on the inside of the barrel. Slide the BoreMaster in and out very slightly and/or wiggle to allow the tiny probes to settle in accurately. Your read out on the digital is the barrel thickness. If your skeet gun has been shot zillions of times it will probably pay you to check that gun's barrel thickness plus any sub-gauge tubes that have been shot an inordinate number of times.

With the .625 and .413 calibration rings you can measure all your skeet guns and/or skeet sub-gauge tubes. Further, the BoreMaster can perform the same measurements on rifles of .308 caliber and larger.

The website is www.shotguncombogauge.com with phone 800-979-9156. You can also email Bob Foege at sales@shotguncombogauge.com.

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