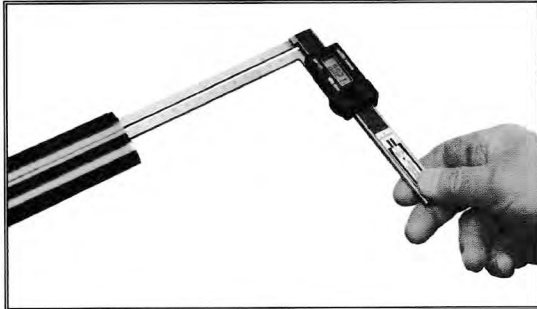


# BoreMaster Instructions

## First Things First:

1. Unload the gun.
2. For repeatable accuracy, it is best to have the gun barrel(s) in the horizontal position, in a gun rest, and with the BoreMaster handle in the vertical position.

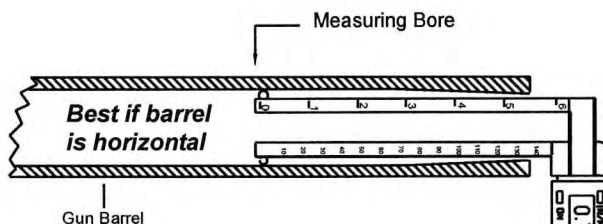


## What You Need to Know Before Measuring

- Always compress the probes when entering or leaving the bore.
- **PUSH, DON'T PULL**, to measure.
- When measuring the bore first, then the constriction, follow this procedure:
  1. Compress the probes to enter the bore;
  2. Release the probes to measure bore;
  3. Press zero;
  4. Compress probes to remove them from the bore;
  5. Reset the probes by compressing and releasing just below the end to measure constriction.

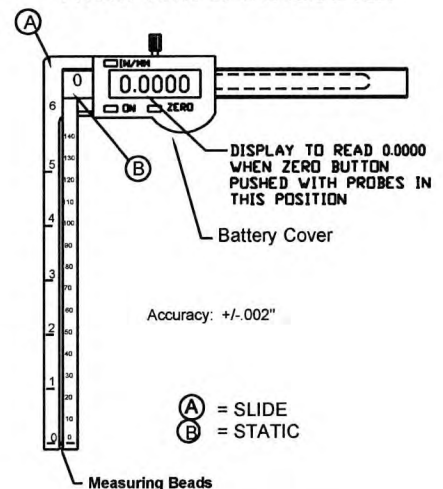
Remember, when measuring, ALWAYS push from the smaller diameter (constriction) to the larger (bore) unless you compress the probes to adjust.

## Measuring Bore

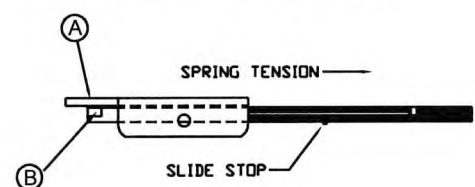


**Measuring Bore Dimensions:** The spring holds the BoreMaster in the open position. Push the "ON" button. Push back probe (A) all the way to the top, noting the scissors action. Hold the probe firmly at its maximum top setting and set at "0" by pressing the Zero button. Insert the gauge into the shotgun bore by releasing the back probe (A) so it will fit in. Read the dimension in inches and metric. Do not put hand pressure on the probes -- they will open and fit the bore due to the spring pressure. To get an accurate reading, wiggle the probes about so they settle properly in the bore's centerline.

## FRONT VIEW OF BOREMASTER

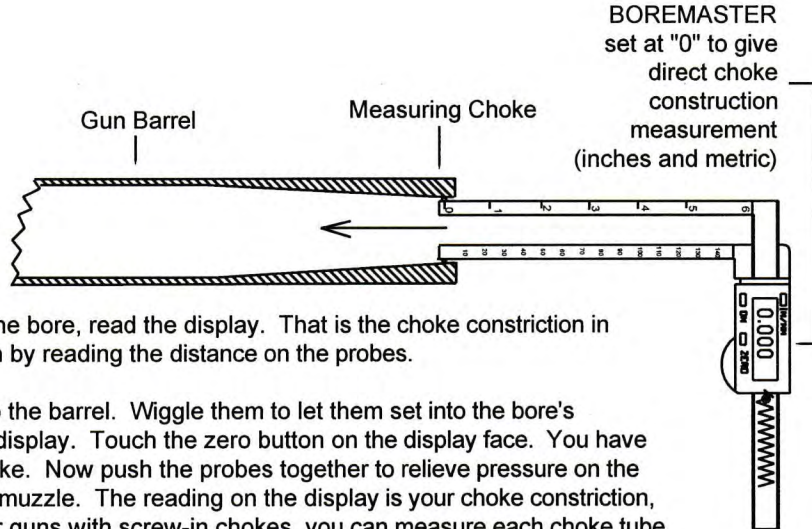


## TOP VIEW OF BOREMASTER



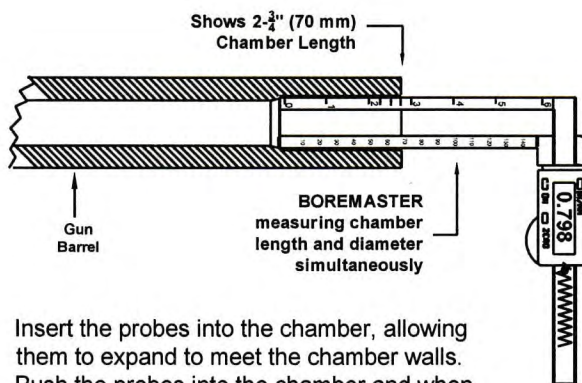
## Measuring Choke

**Measuring Choke Constriction and Choke Length:** Place the probes at the muzzle of the gun. Set the display at "0". Push the probes down into the barrel. When the choke constriction stops and you are in the barrel section of the bore, read the display. That is the choke constriction in inches or metric. Measure the choke length by reading the distance on the probes.



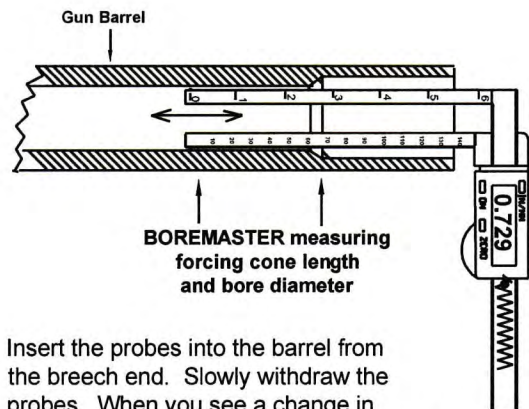
**Measuring Choke Only:** Insert probes into the barrel. Wiggle them to let them set into the bore's centerline. Read the bore diameter on the display. Touch the zero button on the display face. You have now set the datum point for reading the choke. Now push the probes together to relieve pressure on the barrel walls and set the probe beads at the muzzle. The reading on the display is your choke constriction, either thousandths of an inch or metric. For guns with screw-in chokes, you can measure each choke tube OUTSIDE of the gun by simply setting the probes into the tube at the muzzle end.

## Measuring Chamber Length



Insert the probes into the chamber, allowing them to expand to meet the chamber walls. Push the probes into the chamber and when the resistance of the forcing cone is felt, stop. Read the chamber length engraved on the probe from the breech end. You will also get the chamber diameter dimensions on the display.

## Measuring Forcing Cone



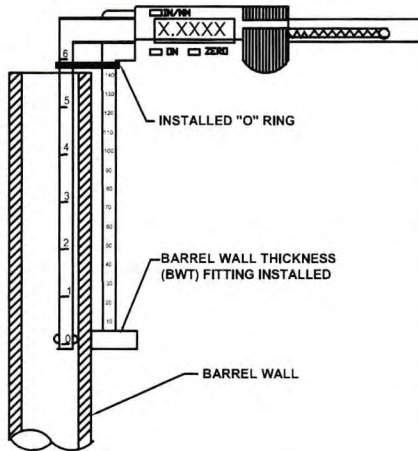
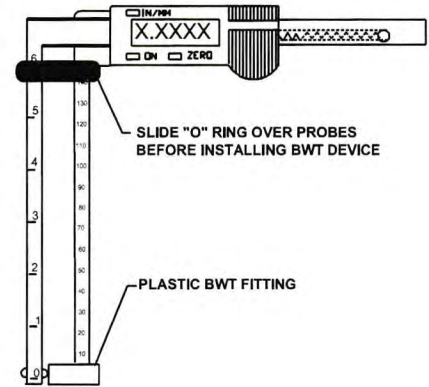
Insert the probes into the barrel from the breech end. Slowly withdraw the probes. When you see a change in the display (opening), that is the beginning of the forcing cone. Note that dimension on the calibrated probe. Continue withdrawing. When the chamber diameter is indicated on the display, note the dimension on the calibrated probe. Subtract the second reading from the first and you have forcing cone length.

## Measuring Barrel Wall Thickness (BWT)

You will need the supplied "O" Ring and the Barrel Wall Thickness (BWT) Plastic Fitting



1. Fit the "O" Ring over both probes before pushing on the BWT fitting. The "O" Ring will keep the probes tightly closed.
2. Fit the BWT Fitting over the right probe; push on. Make sure that the BWT offset flat aligns with the bead of the left probe.
3. Push "ZERO" on the BoreMaster control face. Pull back the right probe several times so that it sets into the BWT device and establishes a zero point. The zero point may vary by a couple of thousandths. For the purpose of these measurements, these variances will not matter.



4. Insert the probes over the barrel wall as shown. Allow the BoreMaster to settle in. Read the results.

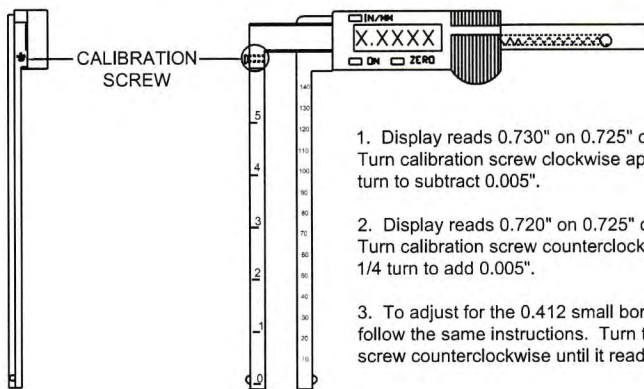
Please note: Accuracy is  $\pm 0.002$ ", however, what you are trying to establish is the presence of very thin barrel wall thickness, which this gauge will do.

Please note: If you are reading the choke dimension, remember that you are reading half of the constriction.

5. Use the supplied 0.025" calibration strip to confirm the BoreMaster's BWT accuracy.

6. After use, remove the "O" Ring from the probes to prevent it from stretching. The "O" Ring will need replacing if it no longer compresses the probes tightly. The "O" Ring size is 1/2" I.D., 11/16" O.D., and 3/32" thickness.

## Adjusting the Calibration Screw



1. Display reads 0.730" on 0.725" calibration ring. Turn calibration screw clockwise approximately 1/4 turn to subtract 0.005".
2. Display reads 0.720" on 0.725" calibration ring. Turn calibration screw counterclockwise approximately 1/4 turn to add 0.005".
3. To adjust for the 0.412 small bore calibration ring, follow the same instructions. Turn the calibration screw counterclockwise until it reads 0.412 repeatably.

### Maintenance:

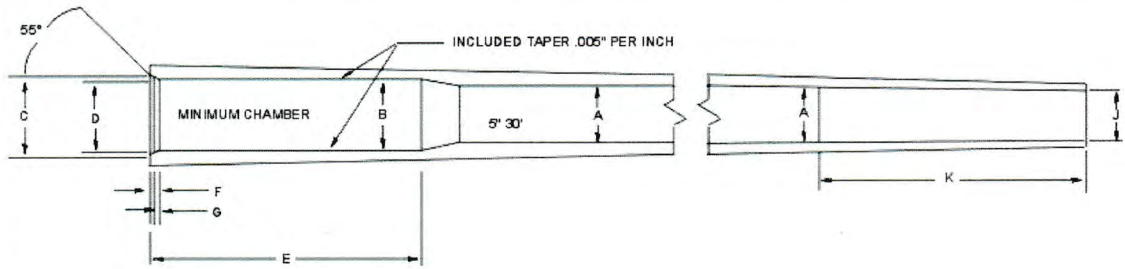
| Trouble         | Possible Cause                    | Solutions  |
|-----------------|-----------------------------------|--|
| Flashing digits | Low voltage                       | Replace battery  |
| No display      | 1. Low voltage<br>2. Poor contact | 1. Replace battery<br>2. Adjust and clean battery seat |
| Fixed digits    | Accidental trouble in circuit     | Take battery out and put back in after one minute.     |

**Battery Replacement:** When the display keeps flashing or does not appear, remove the battery cover and replace the battery with a new one (SR44, 1.55v). The positive pole of the battery must face out.

## STANDARD BORE, CHAMBER & CHOKE DIMENSIONS

| VARIOUS BORE DIMENSIONS (INCHES) |                          |
|----------------------------------|--------------------------|
| BORE SIZE (GAUGE)                | BORE DIMENSIONS (INCHES) |
| 4                                | 1.052                    |
| 5                                | .976                     |
| 6                                | .919                     |
| 7                                | .873                     |
| 8                                | .835                     |
| 9                                | .803                     |
| 10                               | .775                     |
| 11                               | .751                     |
| 12                               | .729                     |
| 13                               | .710                     |
| 14                               | .693                     |
| 15                               | .677                     |
| 16                               | .662                     |
| 20                               | .615                     |
| 21                               | .605                     |
| 22                               | .596                     |
| 23                               | .587                     |
| 24                               | .579                     |
| 25                               | .571                     |
| 26                               | .563                     |
| 27                               | .556                     |
| 28                               | .550                     |
| 29                               | .543                     |
| 32                               | .526                     |

| GAUGE  | BORE | CHAMBER |      |       |       |      |      | CHOKE |       |         |      |       |       |         |       |     |      |   |      |  |       |  |      |  |
|--------|------|---------|------|-------|-------|------|------|-------|-------|---------|------|-------|-------|---------|-------|-----|------|---|------|--|-------|--|------|--|
|        |      |         |      |       |       |      |      | FULL  |       | IMP MOD |      | MOD   |       | IMP CYL |       | CYL |      |   |      |  |       |  |      |  |
|        |      | A       | B    | C     | D     | E    | F    | G     | J     | K       | J    | K     | J     | K       | J     | K   | J    | K |      |  |       |  |      |  |
| 10     | .775 | .841    | .933 | .8854 | 2.875 | .074 | .026 | .739  | 2-1/2 |         | .748 | 1-7/8 | .757  | 1-1/4   | .766  | 5/8 | .775 | 0 |      |  |       |  |      |  |
| 10 MAG |      | .8379   |      |       | 3.500 |      |      |       |       |         |      |       |       |         |       |     |      |   |      |  |       |  |      |  |
| 12     | .729 | .798    | .886 | .8118 | 2.750 | .072 | .026 | .693  |       |         |      |       |       |         | .702  |     |      |   | .711 |  | .720  |  | .729 |  |
| 12 MAG |      | .7968   |      |       |       |      |      |       |       |         |      |       | 3.000 |         |       |     |      |   |      |  |       |  |      |  |
| 16     | .662 | .732    | .820 | .7458 | 2.750 | .065 | .026 | .636  |       |         |      |       |       |         | .6425 |     |      |   | .649 |  | .6555 |  | .662 |  |
| 20     | .615 | .685    | .766 | .6988 | 2.750 | .060 | .026 | .589  |       |         |      |       |       |         | .5955 |     |      |   | .602 |  | .6085 |  | .615 |  |
| 28     | .550 | .614    | .688 | .6284 | 2.875 | .060 | .024 | .530  |       |         |      |       |       |         | .535  |     |      |   | .540 |  | .545  |  | .550 |  |
| 410    | .410 | .463    | .537 | .478  | 3.000 | .060 | .020 | .390  |       |         |      |       |       |         | .395  |     |      |   | .400 |  | .405  |  | .410 |  |



This drawing and the specification information was released by Ithaca prior to advent of plastic shot protector.