

THE WILSON MINIMUM DIMENSION GAGE

INTRODUCTION TO WILSON MINIMUM DIMENSION GAGE:

Congratulations on your purchase! We thank you for supporting our MADE IN THE USA family owned business! LE WILSON is the ORIGINAL Cartridge Gage Manufacturer, we have been making Case Gages since 1936! By using WILSON TOOLS & GAGES, you are on your way to developing more accurate uniform hand-loads. The MIN Dimension Gage is designed to test your loaded rounds against Minimum SAAMI *Chamber* Specifications. This can be very useful in pointing out issues with finished loaded rounds.

- WHY USE THIS GAGE?**
- 1) You want your reloaded rounds to chamber in a variety of guns
 - 2) You want to check for uniformity of your rounds against SAAMI specifications
 - 3) You want to pinpoint issues with your reloaded rounds
 - 4) You want a quick check to see if you are under MAX SAAMI COAL
 - 5) You want to check factory ammunition you have purchased

*** This gage is NOT intended to be used for setting shoulder set back or trim length. Please use the Wilson Case Gage. It is NOT recommended to reload your cases back to SAAMI spec every time. Overworking your brass will lead to case separation!**

It is important to note: MIN *Chamber* is LARGER than MAX *Cartridge* in all SAAMI drawings. The difference between the two makes it possible to chamber rounds in your gun. By using this gage you are given easy access to check your reloaded rounds in a simulated SAAMI spec chamber.

INSTRUCTIONS

Step 1: Clean Gage with Solvent, Check Contents

Wipe all oil from inside of the gage and all gaging surfaces. Look into the Gage to see that it is free of any and all debris.

Step 2: Check a Prepared Case (No bullet, primer or powder) in Gage

Hold the gage in a horizontal position and insert the prepared case (This is a Sized and Trimmed Case) into the gage. These cases should have been prepared using the **LE WILSON CASE GAGE** in order to ensure correct sizing of head-space and trim length. This step is necessary to first determine your Case Dimensions are within spec. Your case should sit flush or just below flush in the gage. This would mean your prepared case meets all SAAMI MIN *Chamber* Dimensions. Move to Step 3. If the case does not enter the gage completely, then this points to one of the following..

- 1) One or more of your case diameters exceeds SAAMI Min *Chamber* (see page 2).
*Very common for AR chambers to cause a bulge near the base of the case. If the case is getting hung up here then you may need to add in a small base sizing die to your reloading process.
- 2) Your Case Length is over max allowable length and you will need to use the Wilson Cartridge Case Trimmer to trim to proper length.

****THIS DOES NOT MEAN IT WILL NOT CHAMBER IN YOUR GUNS CHAMBER!!**

Step 3: Check Loaded Dummy (No primer or powder) Round in Gage

Now that you have determined your case dimensions meet MIN SAAMI *Chamber* Specifications. You can now move forward with gaging your COAL (Cartridge Overall Length) measurement. Defined as the measurement from Head of Case to Tip of Bullet.

- a) Set your loaded round on a clean flat surface, then, slide the gage over the top of the case. The gage and the case head need to be on the same surface plane in order to gage your COAL. The Gage is set to max for each specific caliber and this length **WILL** vary depending on the type and grain of bullet you are using.
- b) After sliding the gage over the top of the round you should note if the bullet is over max length, if it is, double check your measurements and reference materials to ensure correct COAL.

CAUTION! The Minimum Dimension Gage DOES NOT measure for CBTO or Cartridge Base to Ogive! It is best to use a separate step to determine seating depth. This is due to the wide variation in chambers and bullet options on the market. It is best to consult the bullet manufacturer, gun manufacturer, gunsmith, reloading manual or proper source. It is impossible for a fixed gage to properly measure this very critical measurement!

Step 4: Identifying issues with your rounds

Loaded rounds will not enter the gage for the following reasons:

- 1) One or more of your body dimensions is over MIN *Chamber* Specs. (Base, Shoulder or Neck)
- 2) Head-space (Head to Datum) is larger than MAX *Cartridge* dimensions for SAAMI spec.
- 3) Case Length is over the allowable length for SAAMI chamber
- 4) Bullet is not concentric with your case - Scaring of bullets after entering gage is a good indicator of this issue.

Inside Dimensions = to MIN Chamber
see page 2 for details

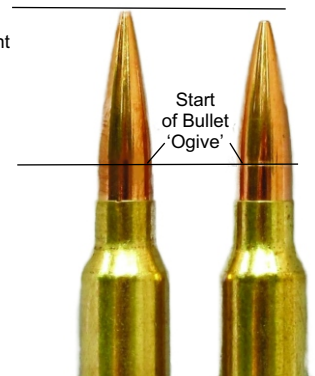


SAAMI COAL

Does NOT measure
CBTO (Cartridge
Base to Ogive).

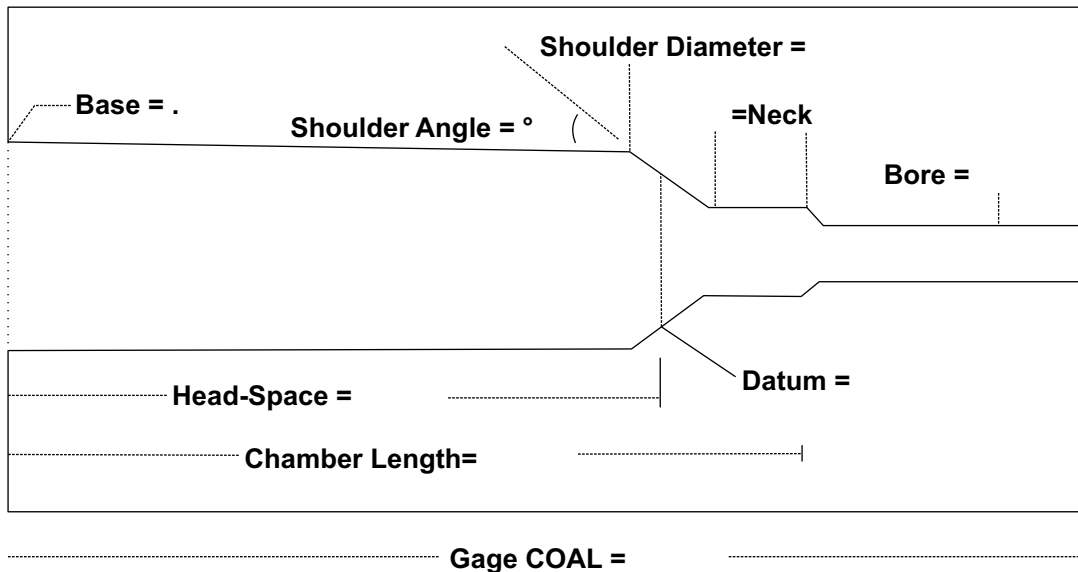
The COAL
for these two
rounds is different

From Base of the
Cartridge to Ogive
(CBTO) is the same



CALIBER: Gage dimensions will be posted here.

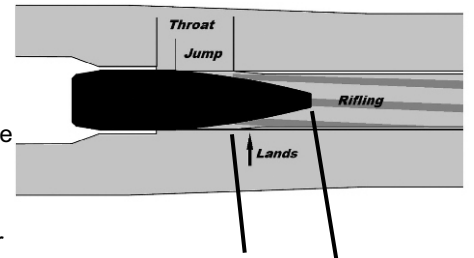
DESIGNER:



COMMENT: If measuring with calipers your dimensions could be off by as much as .003". Gages are reamed with actual SAAMI Spec *Chamber* reamers and are intended to check your loaded rounds against MIN SAAMI *Chamber* Specifications. Just because a round will enter the gage **DOES NOT** mean it will fire in all chambers. The gage is just showing you meet MIN Chamber Specifications.

NOTE: Gage **DOES NOT** measure CBTO. Bore is made oversized Bullet + .001". You will need to check with your bullet manufacturer, gun manufacturer, gunsmith, reloading manual and/or appropriate source for this information to confirm **COAL (Cartridge Overall Length / Base to Tip of Bullet)** *and* **CBTO (Cartridge Base to Ogive / Seating Depth)**

LASTLY: Remember that not all *chambers* are created equal, if you consider how many variations of gun and reamer manufacturers are in the market then add in gunsmiths and hobbyist. It would be impossible to assume that all chambers are made exactly alike and in-kind. Meaning, you could have three separate 223 Remington rifles all from the same manufacture, using the same reamers and process, and still have a variation in head-space, case length and body diameters inside the chamber. This gage is not designed to give you a pat on the back and job well done. Instead, if the case does not enter the gage, this points to further investigation for the reloader to decipher and investigate if the issue needs correction or if the case and/or reloaded round is safe to fire.



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