

User Instructions for Headspace Gages

Issue 4

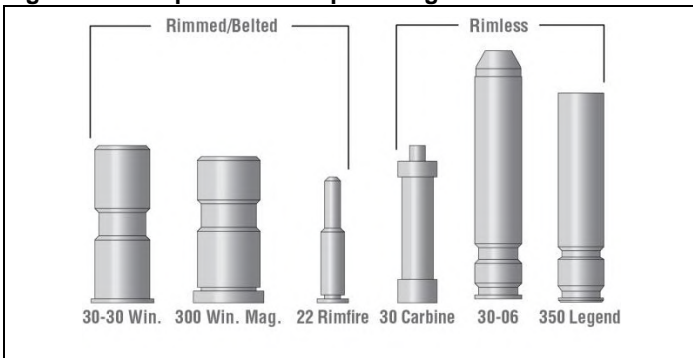
1.0 GENERAL INFORMATION

According to the Sporting Arms and Ammunition Manufacturers' Institute (SAAMI), which sets product standards for firearms and ammunition, headspace is "the distance from the face of the closed breech of a firearm to the surface in the chamber on which the cartridge case seats."

Excessive headspace may lead to gas leakage around the case or head separation and the sudden release of high-pressure gas. Insufficient or excessively tight headspace may cause malfunctions, such as failure to lock. Headspace can increase with continued firing of ammunition loaded to excessive pressures. One should routinely check rifle chamber headspace every thousand rounds.

The proper use of Headspace Gages is the most reliable way to test chamber length. Forster Products manufactures Headspace Gages for a wide variety of calibers and chamber types (Fig. 1). They are manufactured from top-quality, hardened steel and precision ground to SAAMI standards ($\pm .00015"$).

Figure 1. Examples of Headspace Gages



2.0 SAFETY INFORMATION

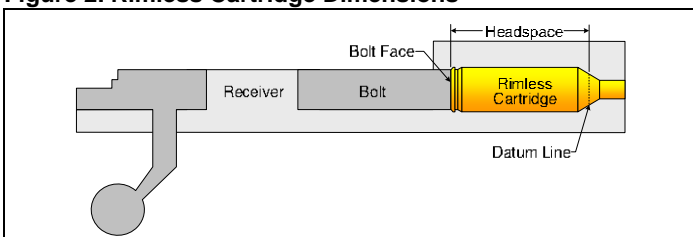
- Always wear safety glasses.
- Make sure the firearm is not loaded.

3.0 UNDERSTANDING HEADSPACE GAGE TYPES

3.1 Rimless Cartridge

Headspace = distance between the bolt face and a datum line, determined by SAAMI, where the front of the cartridge rests on its shoulder when the bolt is closed.

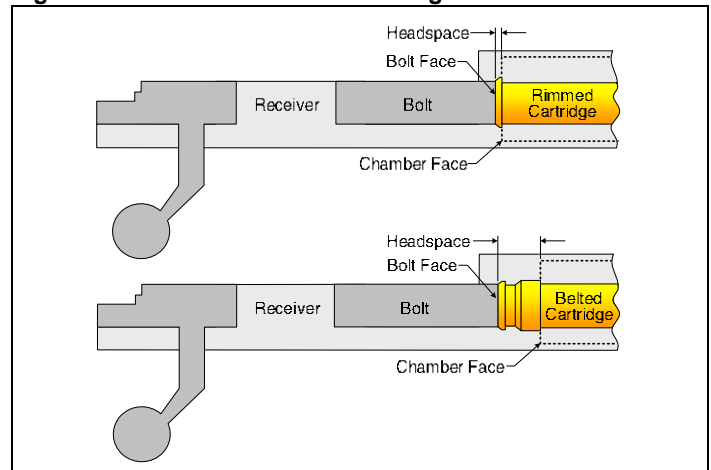
Figure 2. Rimless Cartridge Dimensions



3.2 Rimmed and Belted Cartridges

Headspace = distance between the bolt face and the top of the rim or belt (where it meets the chamber face) when the bolt is closed.

Figure 3. Rimmed and Belted Cartridge Dimensions

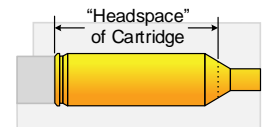


3.3 Terminology: Headspace Clarification

In popular speech, "headspace" is used to describe three related measurements.

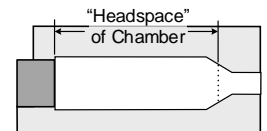
3.3.1. The Dimensions of the Cartridge Itself

Gun owners often refer to the "headspace" of the new or fired cartridge, whether or not it has been sized to specification.



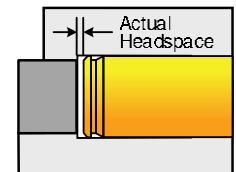
3.3.2. The Dimensions of the Firearm's Chamber

Additionally, gun owners will refer to the "headspace" of the chamber's capacity.



3.3.3. Measuring Meaningful Headspace

Properly speaking – and for safety purposes – one measures "headspace" as the **difference** between the length of a *standard* cartridge, as represented by a gage, and the gun's *actual* chamber length, when the head of the cartridge is flush against the bolt face.



3.4 Gage Sizes

Forster Products offers three lengths of headspace gages for most rifle calibers. In order from the shortest to longest, they are: **GO**, **NO-GO**, and **FIELD**.

- GO:** Corresponds to the minimum chamber dimensions. If a rifle closes on a GO gage, the chamber will accept ammunition that is made to SAAMI maximum specifications. The GO gage is essential for checking a newly-reamed chamber in order to ensure a tight, accurate, and safe chamber that will accept SAAMI maximum ammo.
- NO-GO:** Corresponds to the maximum headspace we recommend for gunsmiths' chambering new bolt-action rifles. This is *not* a SAAMI-maximum measurement. If a rifle closes on a NO-GO gage, it may still be within SAAMI specifications, or it may have excessive headspace. To determine if there is excessive headspace, the chamber should then be checked with a FIELD gage. The NO-GO gage is a valuable tool for gunsmiths' reaming new chambers, in order to ensure tight and accurate headspace.
- FIELD:** FIELD gages are slightly shorter than the SAAMI maximum in order to give a small safety margin. If a rifle closes on a FIELD gage, its chamber is dangerously close to, or longer than, SAAMI-specified maximum chamber size. If chamber headspace is excessive, the gun should be taken out of service until it has been inspected and repaired by a competent gunsmith.

⚠ WARNING
PERSONAL INJURY

- Do not force the bolt closed on a Headspace Gage.
- Do not fire any rifle that will close on the FIELD gage. It may have dangerously excessive headspace.

Failure to comply with these instructions could result in death or serious injury.

4.0 PROCEDURE FOR CHECKING HEADSPACE

- Slide the bolt out of the action. The bolt must work freely in the receiver. It is impossible to have the proper feel of a Headspace Gage if the bolt is tight, dirty, or sticky.
- Remove the extractor from the bolt, if they are not riveted together, and the ejector if a spring-loaded plunger type.
- Clean the chamber and the bolt face.
- Gently attempt to close the bolt on the Headspace Gage. When checking AR-style firearms, you may need to engage the forward assist to assure full bolt closure.

A rifle with the correct headspace should close easily and without feel on the **GO** gage, but should not close on the **FIELD** gage.

If it does close on the **NO-GO** gage, but not on the **FIELD** gage, the rifle is still serviceable.

5.0 AFTER USE

- Store lightly oiled Headspace Gages in a cool, dry location.

6.0 ORDERING INFORMATION

Gages are organized into three product groupings at forsterproducts.com: 1) SAAMI Dimensioned Rimless Headspace Gages, 2) SAAMI Dimensioned Rimmed and Belted Headspace Gages, and 3) NATO Chamber. At the website, you will also find charts that list additional compatibility for Headspace Gage case calibers.

First, find the product that matches your rifle's chambering. Then, select the caliber and length (GO, NO-GO, or FIELD; min. or max.) to check availability and determine the gage's part number.

WARRANTY

All Forster Products are warranted against defects in materials and workmanship for the life of the product. Parts excluded from the warranty are those that, by nature of their function, are subject to normal wear (such as springs, pins, etc.) or that have been altered, abused, or neglected. If the product is deemed defective by workmanship or materials, it will be repaired, reconditioned or replaced (at Forster's option). This warranty supersedes all other warranties for Forster Products, whether written or oral.

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6.1 Rimless Headspace Gages

Several popular calibers of rimless and belted Headspace Gages are manufactured.

Figure 4. Example Rimless Headspace Gage



When they are not designed for a bottleneck case, such as with the 30 Carbine Headspace Gage (Fig. 5), rimless gages perform slightly differently. Their headspace is the overall length of the case.

Figure 5. Special 30 Carbine Headspace Gage



6.2 Rimmed and Belted Headspace Gages

A number of Rimmed and Belted Headspace Gages are also offered.

Figure 6. Example Belted Magnum Headspace Gage



6.3 NATO Chamber Headspace Gages

These rimless chambers require a slightly longer maximum headspace than commercial .223 or 308 Win calibers. No midrange length is available.

Table 1. 5.56 and 7.72 NATO Headspace Gages

Order Number		Length
5.56 NATO Headspace Gage		
HG0223G	Min. Chamber	1.4636"
HG556NATOMax	Max. Chamber	1.4736"
7.62 NATO Headspace Gage		
HG762NATOMin	Min. Chamber	1.6355"
HG762NATOMax	Max. Chamber	1.6455"

We recommend ordering from a dealer or distributor. Their experience and knowledge will help you select the best products that meet your specific requirements. In addition, they usually offer the best prices and convenient delivery options.

To find a Reseller, go to forsterproducts.com and click [Distributors](#). If your distributor cannot supply you, or if you need parts, please contact Forster Products directly by email, phone, or fax.

7.0 CUSTOM MACHINING SERVICES

A complete list of services, including prices and lead times, is available on our website. Visit forsterproducts.com, then click [Resources](#) » [Custom Machining](#).