

# Gunsmithing Tools

## Headspace Gages

The proper use of a Headspace Gage is the most reliable way to test rifle chamber length.



Safety and performance are on the line. Improper headspace may be dangerous to the shooter as well as an impairment to accuracy.

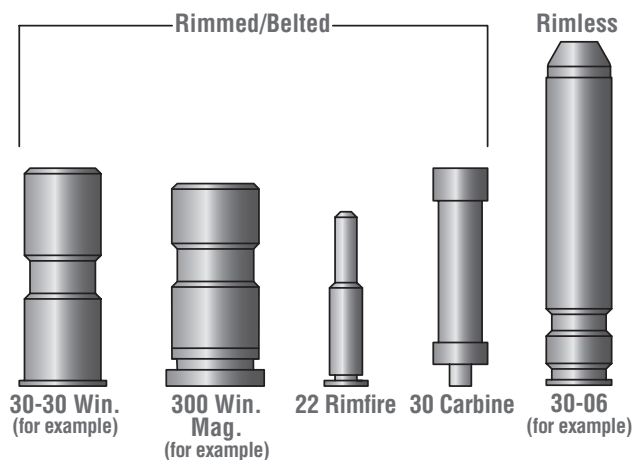
Excessive headspace may lead to gas leakage around the case or head separation and the sudden release of high pressure gas. Insufficient or excessively tight headspace may cause malfunctions such as failure to lock. It often makes extraction difficult and may cause dangerous stresses on the mechanism, which may, in turn, shorten component life expectancy or lead to failure.

### Features

- Large caliber selection of both rimmed/belted and rimless gages.
- Three lengths of Headspace Gages for most rifle calibers offered (GO, NO-GO, FIELD).
- Manufactured from top-quality, hardened steel and precision ground to ANSI and SAAMI tolerances.
- Headspace tolerance ground to a very exacting  $\pm .00015"$ .
- Each Headspace Gage thoroughly inspected with NIST-certified measurement tools.

### Ordering Information

Headspace Gages are available to fit a wide variety of rifle chambers. Ordering information is on page 4-5.



## 5.56 NATO and 7.62 NATO Headspace Gages

Specifically designed and manufactured to check slightly longer NATO chambers.



The 5.56 NATO maximum chambering requires a slightly longer headspace than the commercial 223 cal. Rem. The 7.62 NATO chambering requires a longer headspace than the commercial 308 Win.

Two Headspace Gages (minimum and maximum chambers) are available for each NATO chambering. There is not a mid-range NO-GO gage available.

### Features

- Minimum rifle chamber gage checks to ensure that the rifle will accept the longest (headspace dimension) NATO ammunition cases that are currently manufactured.
- Maximum rifle chamber gage checks to ensure that the rifle does not have excessive headspace.

Order Number	Description	Length
<b>5.56 NATO Headspace Gage</b>		
HG0223G	Minimum chamber	1.4636"
HG556NATOMax	Maximum chamber	1.4736"
<b>7.62 NATO Headspace Gage</b>		
HG762NATOMin	Minimum chamber	1.6355"
HG762NATOMax	Maximum chamber	1.6455"

### Web



Our website provides extensive information about how to choose the correct Headspace Gage. Go to [forsterproducts.com](http://forsterproducts.com) and click **Gunsmithing » Headspace Gages**.

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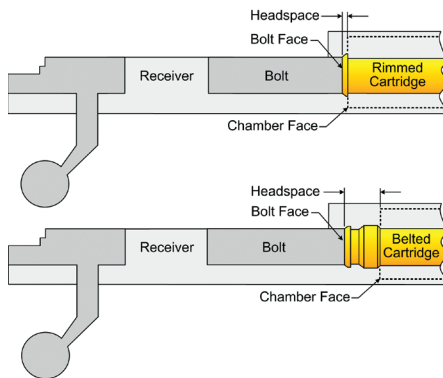
## What Is Headspace?

According to SAAMI (Sporting Arms and Ammunition Manufacturers' Institute), who set 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." Some shooters are under the misconception that headspace is fixed over the life of the firearm. Headspace can increase after repeated use of ammunition that causes too much pressure. Handloaders should routinely check rifle chamber headspace every thousand rounds.

Headspace is measured differently depending on whether the firearm's caliber uses rimmed, belted, or rimless cartridges.

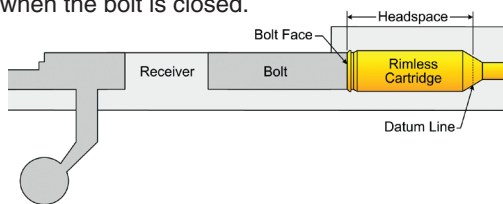
### Rimmed and Belted Cartridges

Headspace = distance between the bolt face and the top of the rim (chamber face) when the bolt is closed.



### 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.



## Choosing the Correct Headspace Gauge

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

- 1. 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's 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. Although the GO gage is necessary for a gunsmith or armorer, it usually has fewer applications for the collector or surplus firearms purchaser.
- 2. 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 checking a newly-reamed chamber in order to ensure a tight and accurate chamber.
- 3. FIELD:** Corresponds to the longest safe headspace. If a rifle closes on a FIELD gage, its chamber is dangerously close to, or longer than, SAAMI's 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. FIELD gages are slightly shorter than the SAAMI maximum in order to give a small safety margin.

# Gunsmithing Tools

**Table 2. Headspace Gage Order Guide**

Cartridge's Rifle Chamber	Headspace Gage	GO Order No.	NO GO Order No.	FIELD Order No.
219 Donaldson Wasp	30-30 WCF	BG3030G	BG3030N	BG3030F
219 Zipper	30-30 WCF	BG3030G	BG3030N	BG3030F
22 Short	22LR (Rimfire)	HG22RimG	HG22RimN	HG22RimF
22 Long	22LR (Rimfire)	HG22RimG	HG22RimN	HG22RimF
22LR Match	22LR (Rimfire)	HG22RimG	HG22RimN	HG22RimF
204 Ruger	204 Ruger	HG0204G	HG0204N	HG0204F
22 PPC	PPC	HG0PPCG	HG0PPCN	HG0PPCF
22 Savage Hi Pwr.	30-30 WCF	BG3030G	BG3030N	BG3030F
22-250	22-250	HG2225G	HG2225N	HG2225F
22-284	284 Win.	HG0284G	HG0284N	HG0284F
220 Swift	220 Swift	HG0220G	HG0220N	HG0220F
222 Rem.	222 Rem.	HG0222G	HG0222N	HG0222F
222 Rem. Mag.	222 Rem. Mag.	HG222MG	HG222MN	HG222MF
223 Rem.	223 Rem.	HG0223G	HG0223N	HG0223F
243 Win.	243 Win.	HG0243G	HG0243N	HG0243F
6mm-284	284 Win.	HG0284G	HG0284N	HG0284F
6mm PPC	PPC	HG0PPCG	HG0PPCN	HG0PPCF
6mm Rem. 244	244 Rem.	HG0244G	HG0244N	HG0244F
6x45	223 Rem.	HG0223G	HG0223N	HG0223F
6x47	222 Rem. Mag.	HG222MG	HG222MN	HG222MF
244 Rem.	244 Rem.	HG0244G	HG0244N	HG0244F
25-06	30-06 Spring.	HG3006G	HG3006N	HG3006F
25-35 WCF	30-30 WCF	BG3030G	BG3030N	BG3030F
25-284	284 Win.	HG0284G	HG0284N	HG0284F
257 Roberts	257 Roberts	HG0257G	HG0257N	HG0257F
257 STW	Std. Belted Mag. .535" O.D.	BG300MG	BG300MN	BG300MF
257 Wby.	Std. Belted Mag. .535" O.D.	BG300MG	BG300MN	BG300MF
260 Rem.	243 Win.	HG0243G	HG0243N	HG0243F
264 Win.	Std. Belted Mag. .535" O.D.	BG300MG	BG300MN	BG300MF
6.5-06	30-06 Spring.	HG3006G	HG3006N	HG3006F
6.5-284	284 Win.	HG0284G	HG0284N	HG0284F
6.5 Rem. Mag.	Std. Belted Mag. .535" O.D.	BG300MG	BG300MN	BG300MF
6.5 SKAN	6.5 SKAN	HGSKANG	HGSKANN	—
6.5 STW	Std. Belted Mag. .535" O.D.	BG300MG	BG300MN	BG300MF
6.5x55 Swede	6.5x55 Swede	HG6555G	HG6555N	HG6555F
6.5 Creedmoor	6.5 Creedmoor	HG65CRG	HG65CRN	HG65CRF
6.5x257 Roberts	257 Roberts	HG0257G	HG0257N	HG0257F
270 Wby.	Std. Belted Mag. .535" O.D.	BG300MG	BG300MN	BG300MF
270 Win.	30-06 Spring.	HG3006G	HG3006N	HG3006F
270-284	284 Win.	HG0284G	HG0284N	HG0284F
275 H&H	Std. Belted Mag. .535" O.D.	BG300MG	BG300MN	BG300MF
280 Rem.	280 Rem.	HG0280G	HG0280N	HG0280F
284 Win.	284 Win.	HG0284G	HG0284N	HG0284F
7mm-08	243 Win.	HG0243G	HG0243N	HG0243F
7mm-Int. R	30-30 WCF	BG3030G	BG3030N	BG3030F
7mm Mauser (7x57)	257 Roberts	HG0257G	HG0257N	HG0257F
7mm Rem. Mag.	Std. Belted Mag. .535" O.D.	BG300MG	BG300MN	BG300MF
7mm Wby. Mag.	Std. Belted Mag. .535" O.D.	BG300MG	BG300MN	BG300MF
7-30 Waters	30-30 WCF	BG3030G	BG3030N	BG3030F
30 Carbine	30 Carbine	HG0030G	HG0030N	HG0030F

# Gunsmithing Tools

**Table 2. Headspace Gage Order Guide (continued)**

Cartridge's Rifle Chamber	Headspace Gage	GO Order No.	NO GO Order No.	FIELD Order No.
30 Herrett	30-30 WCF	BG3030G	BG3030N	BG3030F
308 Norma Mag.	Std. Belted Mag. .535" O.D.	BG300MG	BG300MN	BG300MF
307 Win.	30-30 WCF	BG3030G	BG3030N	BG3030F
308 Win.	243 Win.	HG0243G	HG0243N	HG0243F
7.62x54 Russian	7.62 x 54 Russian	—	BG762RN	BG762RF
300 Blackout	300 Blackout	HG0300G	HG0300N	HG0300F
30-06	30-06 Spring.	HG3006G	HG3006N	HG3006F
30-284	284 Win.	HG0284G	HG0284N	HG0284F
30-30	30-30 WCF	BG3030G	BG3030N	BG3030F
30-338 Win. Mag.	Std. Belted Mag. .535" O.D.	BG300MG	BG300MN	BG300MF
30-378 Wby.	Large Wby. Mag. .603" O.D.	BGWBYG	—	BGWBYF
30-40 Krag	30-40	BG3040G	BG3040N	BG3040F
300 H&H	Std. Belted Mag. .535" O.D.	BG300MG	BG300MN	BG300MF
300 Win. Mag.	Std. Belted Mag. .535" O.D.	BG300MG	BG300MN	BG300MF
300 Wby.	Std. Belted Mag. .535" O.D.	BG300MG	BG300MN	BG300MF
303 British	303 British	BG303G	BG303N	BG303F
303 Savage	30-30 WCF	BG3030G	BG3030N	BG3030F
32 Win. Sp.	30-30 WCF	BG3030G	BG3030N	BG3030F
32-40	30-30 WCF	BG3030G	BG3030N	BG3030F
8mm Mauser (8x57) <sup>(1)</sup>	8x57 Mauser	HG8X57G	HG8X57N	HG8X57F
8mm Mauser (8x57) <sup>(2)</sup>	8x57 Mauser	HG8MMOLDG	HG8MMOLDN	HG8MMOLDF
8mm Rem. Mag.	Std. Belted Mag. .535" O.D.	BG300MG	BG300MN	BG300MF
338 Federal	243 Win.	HG0243G	HG0243N	HG0243F
338 Win. Mag.	Std. Belted Mag. .535" O.D.	BG300MG	BG300MN	BG300MF
338-06	30-06 Spring.	HG3006G	HG3006N	HG3006F
340 Wby.	Std. Belted Mag. .535" O.D.	BG300MG	BG300MN	BG300MF
35 Whelen	30-06 Spring.	HG3006G	HG3006N	HG3006F
35-284	284 Win.	HG0284G	HG0284N	HG0284F
350 Rem. Mag.	Std. Belted Mag. .535" O.D.	BG300MG	BG300MN	BG300MF
356 Win.	30-30 WCF	BG3030G	BG3030N	BG3030F
358 STA	Std. Belted Mag. .535" O.D.	BG300MG	BG300MN	BG300MF
358 Win.	243 Win.	HG0243G	HG0243N	HG0243F
375 H&H	Std. Belted Mag. .535" O.D.	BG300MG	BG300MN	BG300MF
375 Win.	30-30 WCF	BG3030G	BG3030N	BG3030F
378 Wby.	Large Wby. Mag. .603" O.D.	BGWBYG	—	BGWBYF
38-55 WCF	30-30 WCF	BG3030G	BG3030N	BG3030F
416 Rem.	Std. Belted Mag. .535" O.D.	BG300MG	BG300MN	BG300MF
416 Wby.	Large Wby. Mag. .603" O.D.	BGWBYG	—	BGWBYF
458 Win. Mag.	Std. Belted Mag. .535" O.D.	BG300MG	BG300MN	BG300MF
460 Wby.	Large Wby. Mag. .603" O.D.	BGWBYG	—	BGWBYF

**Notes:**

(1) Used for checking the current SAAMI-specified 19° shoulder angle.

(2) Used for checking the 20° 48' shoulder angle. This chamber is no longer manufactured.

**Tip**



1. **GO:** Corresponds to the minimum chamber dimensions.
2. **NO-GO:** Corresponds to the maximum headspace recommended for gunsmiths chambering new bolt action rifles.
3. **FIELD:** Corresponds to the longest safe headspace.

Go to [forsterproducts.com](http://forsterproducts.com) and click Headspace Gages for more information about these three Headspace Gage lengths.

# Gunsmithing Tools

**Table 3. Caliber Interchangeability for Rimmed/Belted Headspace Gages**

Use This Headspace Gage	To Check These Cartridges' Rifle Chambers
22 Rimfire	22 Short 22 Long, 22 LR Match
30-30 WCF	219 Donaldson Wasp 219 Zipper 22 Savage Hi Pwr. 25-35 WCF 7-30 Waters 7mm Int. R 30 Herrett 303 Savage 32 Win. Sp. 307 Win. 32-40, 356 Win. 375 Win. 38-55 WCF
Std. Belted Mag. .535" O.D.	257 Wby. 257 STW 264 Win. 6.5 STW 6.5 Rem. Mag. 270 Wby. 275 H&H 7mm Rem. Mag. 7mm Wby. Mag. 300 H&H 300 Wby. 300 Win. Mag. 30-338 Win. Mag. 308 Norma Mag. 338 Win Mag. 8mm Rem. Mag. 340 Wby. 350 Rem. Mag. 358 STA 375 H&H, 416 Rem. 458 Win. Mag.
Large Wby. Mag. .603" O.D.	30-378 Wby. 378 Wby. 416 Wby. 460 Wby.

**Table 4. Caliber Interchangeability for Rimless Headspace Gages**

Use This Headspace Gage	To Check These Cartridges' Rifle Chambers
PPC	22 PPC 6mm PPC
223 Rem.	223 Rem. 6x45
243 Win.	243 Win. 260 Rem. 7mm-08 308 Win. 338 Fed 358 Win.
244 Rem.	244 Rem. 6mm Rem-244
257 Roberts	257 Roberts 6.5x257 Roberts 7mm Mauser (7x57)
284 Win.	284 Win. 22-284 6mm-284 25-284 6.5-284 270-284 30-284 35-284
30-06 Spring.	25-06 6.5-06 270 Win. 30-06 8mm-06 338-06 35 Whelen

**Web**



Go to our Video Library to view our Headspace Gage video.



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**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.