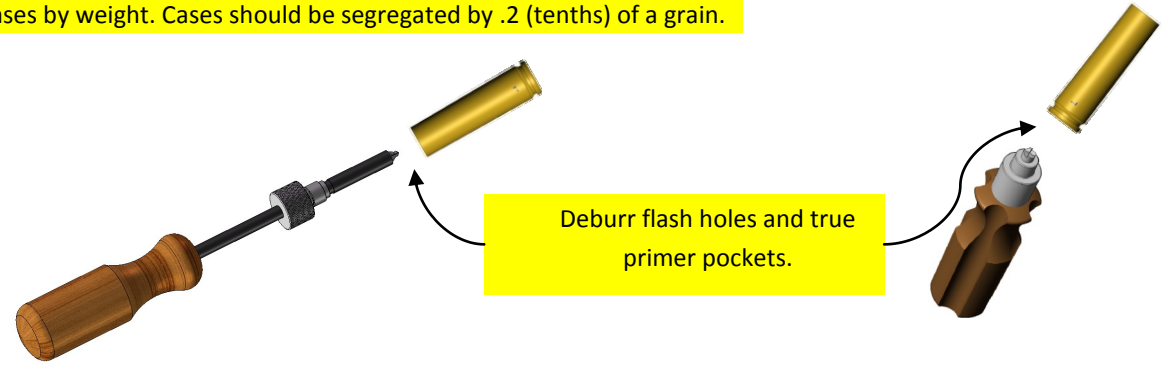
INSTRUCTIONS FOR PRODUCTION OF SURESTRIKE CASES:

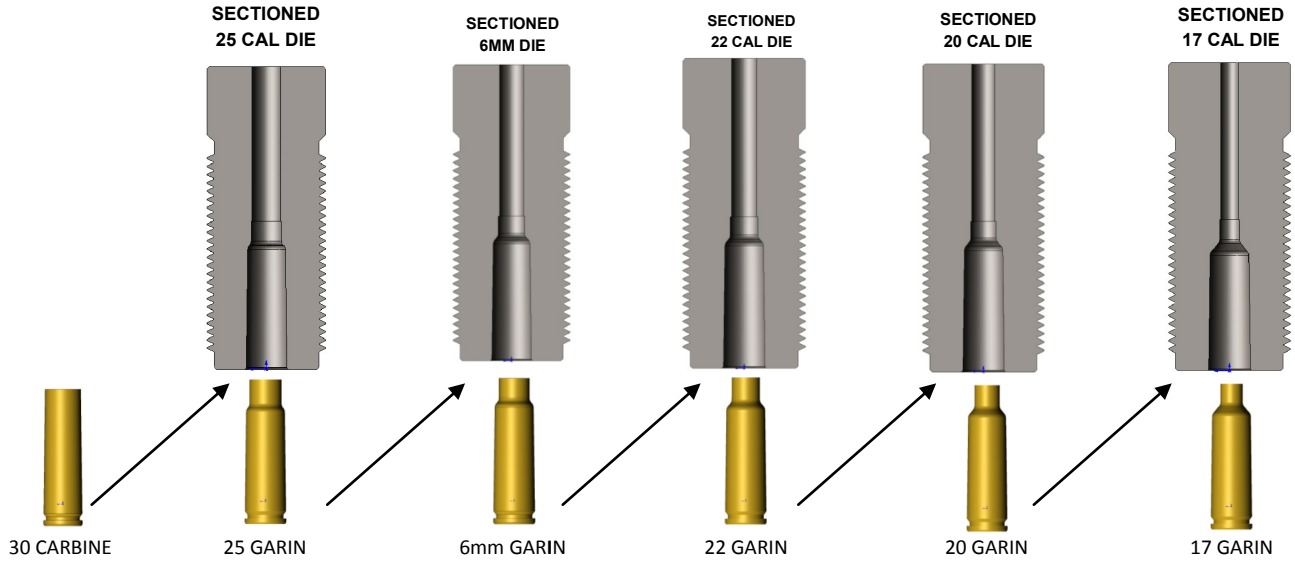
General comments:

For purposes of these discussions, all development is being done with new, unfired, Remington 30 Carbine brass. Thickness of the factory brass at the mouth of the case averages .014". Final neck thickness after forming and turning is .010" in all cases. Although the published length of the 30 Carbine is 1.290", the average overall length of empty cases is found to be 1.280 -1.285". The following directions are fully detailed to produce the highest level of match grade cases. For those of us who enjoy tinkering with brass this is a relaxing pastime. For high volume production, several steps may be eliminated with little if any degradation in performance and consistency. These optional steps Highlighted in Yellow. are The equipment images are generic representations of typical manual tools. For volume production, there are any number of power tools which greatly increase production.

Sort cases by weight. Cases should be segregated by .2 (tenths) of a grain.



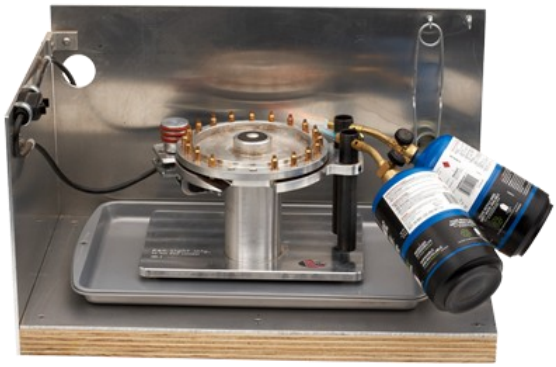
Initial case forming is done cold, that is, factory cases are lubricated but **NOT** annealed. Cases are most easily formed by running them through each progressively smaller die until reaching the desired final caliber.



It has turned out that, depending on your choice of final cartridge, some steps can be skipped, saving some die cost. (See chart below) This initial sizing will establish a neck / shoulder juncture.

To Form: (from 30 Carbine)	1st Sizing	2nd Sizing	3rd Sizing	Diameter Reduction per Stage	Total Diameter Reduction
25 Garin	25 Garin			.051	.051
6mm Garin	6mm Garin			.065	.065
22 Garin	6mm Garin	22 Garin		.020	.085
20 Garin	6mm Garin	20 Garin		.039	.104
17 Garin	6mm Garin	22 Garin	17 Garin	.051	.136
Desired final cartridge					

After this initial forming, the case necks are best annealed to give uniform tension and good case life. I use an automated unit by Ken Light Manufacturing.

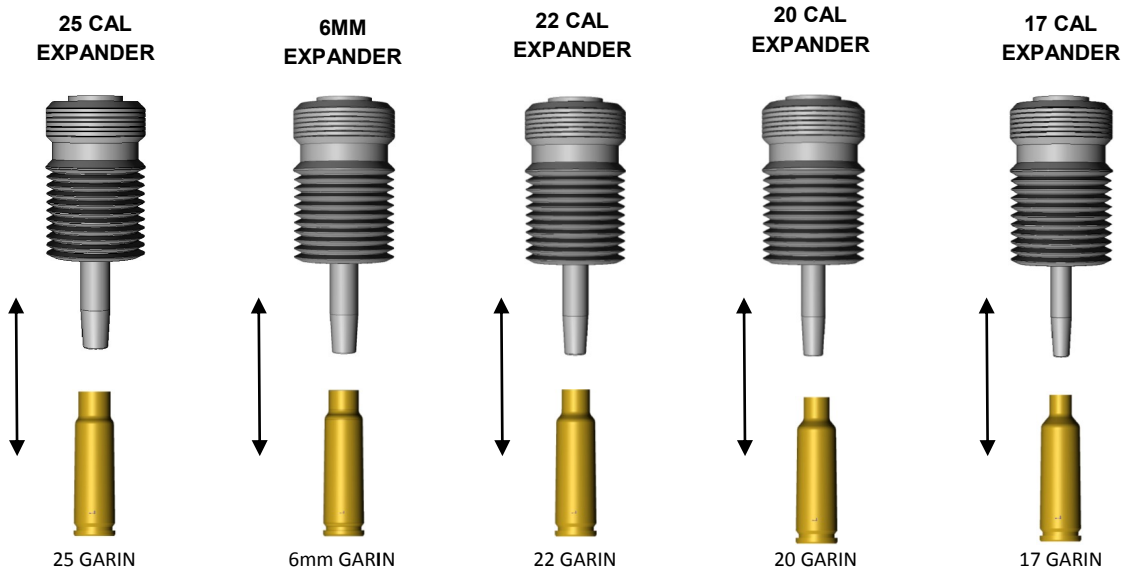


Ken Light annealing unit mounted in home built enclosure.

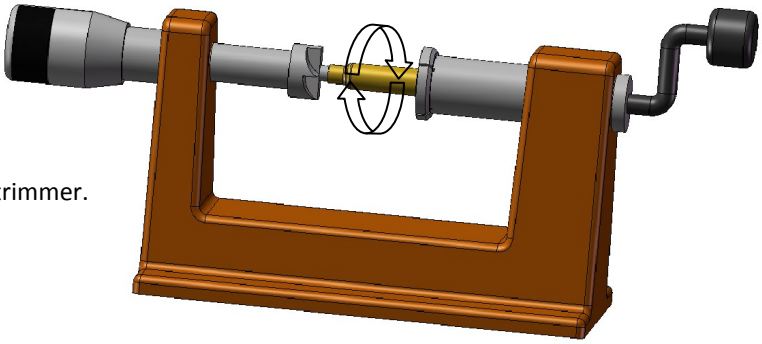
After resizing and annealing, the cases have the correct O.D., but because the neck's brass thickness has increased as the neck diameter decreased, the excess material must be accurately removed.

First, run an expander through the neck to return the I.D. to the nominal caliber (.257, .243, .223, .204, and .172). Use enough lube so that the case does not "squeak" as the expander is pushed through. The cases will now fit on the mandrel of any number of neck turners.

Use the expander for the final cartridge you're forming.

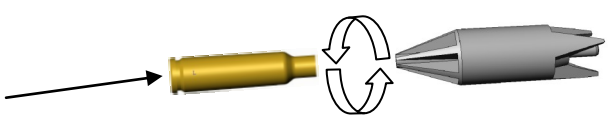


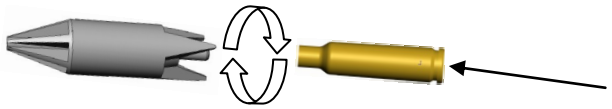
Trim cases to 1.285" length. (don't worry if some are already a few thousandths short)



Typical manual case trimmer.

Chamfer inside and outside of necks.



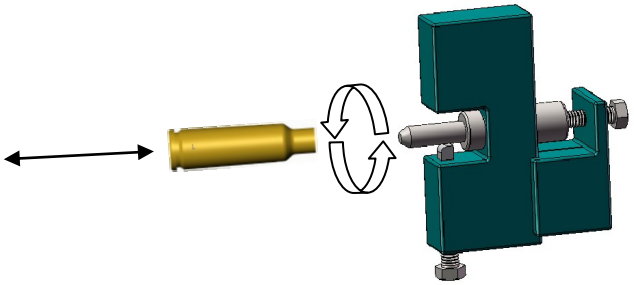


The chart below shows dimensions actually taken from freshly formed then turned cases.

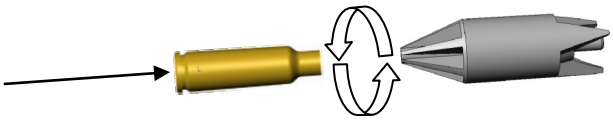
	INITIAL NECK O.D. AS MANUFACTURED OR AFTER INITIAL FORMING	NECK I.D. SIZED - NOT TURNED	NECK THICKNESS SIZED - NOT TURNED	I.D. OF NECK EXPANDED FOR TURNING	NECK O.D. AFTER TURNING TO .010" THICKNESS
30 Carbine	.327-.328"	.299-.300"	.014"	.308"	n/a
25 GARIN	0.287"	0.287	.015"	.257"	.277"
6mm GARIN	.267-.269"	.232-.234"	.016"	.243"	.263"
22 GARIN	.255-.256"	.224-.225"	.016"	.224"	.244"

Make first rough cut to approximately .012 or whatever so that the final cut will only be taking off a small amount.

Turn the outside of necks to the desired thickness. Use the Nielson, K&M, or any turner of your choice and mark and leave the cutting adjustment where it is set unless you need to change thickness.

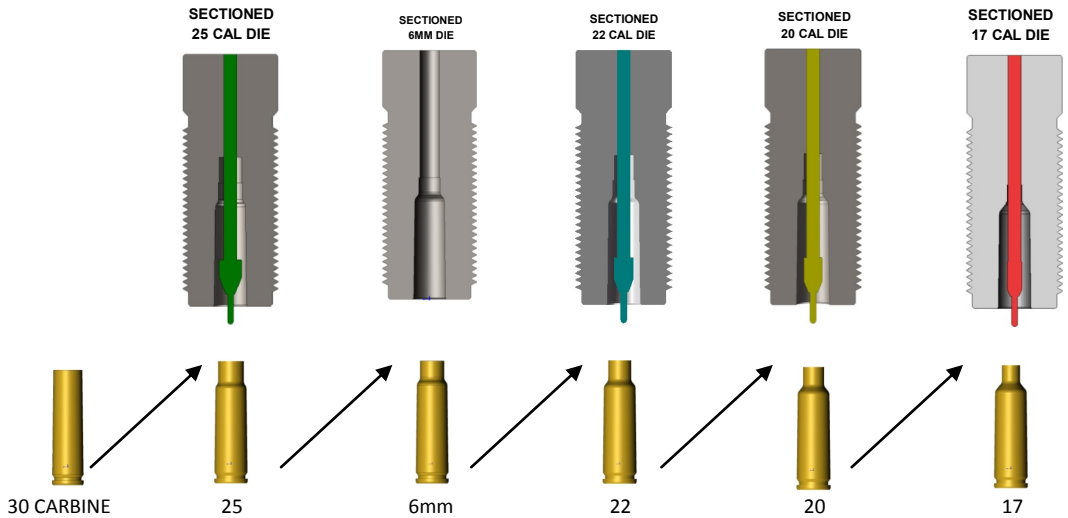


Typical outside neck turner.



Chamfer inside of neck. (Case mouth)

Run cases through Full Length resize die with a small (appropriate to caliber) button to create tight neck tension for fire forming.



Clean inside of case with a Q-tip to remove excess lube.

Fire form cases. These cartridges shoot quite accurately in this newly formed condition and don't necessarily need a separate fire-forming step.

Measure the cartridge case length with a case length gauge and test resized round in chamber with a stripped bolt for a snug feel. Trim to 1.280". Retrim cases back to this size after they reach 1.290.

Chamfer inside and outside of necks.