

Your rifle brass is the foundation of your load, take the time to ensure it is consistent and truly ready to load. Let's start with Lapua brass the same can apply to Norma. It's often stated that this brass is "ready to load straight from the box", well not really. Shooters who use quality brass realize how consistent quality brass is, typical weight variations between pieces and boxes in the same lot are usually within a weight range of 2 grains, sometimes less. This is what you pay for in blue box brass. That does not mean it is ready to load. With drilled flash holes we can usually by-pass and flash hole uni-forming in high quality brass.

The case necks themselves are a completely different story. Dented and oval necks will still be present, and the inside outside chamfer of the neck is minimal to non-existent. If we want our bullets to seat with minimal run-out, consistent neck tension and no bullet scaring, we need to get a good even chamfer on our case mouths. We cannot begin this process with-out first uni-forming our case necks in a size die, and yes I run an expander ball. The trick to consistency with an expander ball is inside neck lube, un-lubed expander balls/necks scar the inside of case necks and this will cause problems.

There are many tools available for neck chamfering from \$10 to \$500 as with anything workmanship means more than the cost of the tool, the expensive stuff in reloading is usually the item that saves you valuable time. You will all be pretty surprised that I chamfer my new cases with a \$10 rcbs chamfer tool, yep no Giraud on my bench. What I do is chuck up the rcbs tool in the lathe and chamfer the outside of all 500 cases , flip the tool around and do the insides. I can run thru 500 pieces of brass in less than 3 hours, and I only repeat this chore if and after I need to trim my cases. The point is, don't skip this important step, it can literally mean the difference between a ¼" gun and a ¾"gun or worse. Consistency is important so if you're using a manual system inspect your cases for consistent results.

Once I have accomplished this I simply clean my brass of lube and brass chips and prepare to seat primers.

Winchester Remington and Hornady brass need a bit more attention. I usually buy 1000 cases at a time and the first thing I do is weight sort them to get 500 cases within 2-2.5 grains of each other. I have found this to shrink vertical displacement at 1000 yards by close to 50%, during f-class testing. The culls from this process are sorted in smaller batches and used for hunting or club level matches where small quantities of rounds are needed in a typical half day match. The last batch of 6.5 creedmoor brass I sorted had a high to low range of 9 grains. The batch before that was 13 grains. Once sorted, I move into the sizing and chamfer operations as outlined above. When that is done I use the Lyman flash hole debur to remove the inside bur from the flash holes. I also do this with the tools handle removed and the tools shaft chucked in the lathe. Be careful to properly set the stop to get an even chamfer that does not "cone out" the flash hole excessively.

One thing you might see missing from this is case trimming, that is a process I now reserved for after the first firing and resizing sequence, and on occasion I have left that go until I physically measured cases that were beyond the maximum case length spec. to me a neck length variance of .005" means nothing on the target. Once this case trimming is done I will repeat the chamfer process on the newly cut case mouths.

Neck turning is something I rarely do, the one occasion I did neck turn was to simple give myself ample room in a tight necked chamber, and that was an f-class gun, which would ensure I would not lose brass on a PRS style COF. Top bench rest shooters most likely all run tight neck chambers and turn necks, for our style of competition it is not necessary.

The final key to brass consistency is in the way you use your brass, I never mix sorted brass with different use rates. Meaning if I have 500 sorted pieces I fire them all once and then resize and reload. I don't fire 400 of them and save 100 pieces on their 3rd firing and reload the previous 400 on their 4th loading and mix them all up and take them to a match. Work hardening and neck tension differences between the differences in the number of firings may cause you vertical issues.

This is where work hardening of the necks comes into the equation, and we need to start the annealing process, but that will have to wait for another time. –keep it on the steel -Jim