

ONCE FIRED

[twice fried]

Glen Zediker, from "Handloading for Competition"

Here, along with the "Reloading For The Match M14," is another block of material that didn't get into the book. These two were related, sort of, since once-fired cases are the staple for propellant containment for a lot of us using that rifle. Hopefully this material will help anyone this interested in economy make sure it is, indeed, economical.

It's all around good advice not to use brass that was fired in another rifle. That goes for swapping among all the rifles in a fellow's cabinet too. Keep same for same.

The primary users of once-fired brass seem to be Service Rifle shooters looking to save a buck, and I shoudn't fault anyone for that. There is an abundance of used 5.56 and 7.62 shell casings for sale, and some in various states of representation by the sellers. And it is cheap enough.

Odds are on that the casings did not eject from match-spec rifles, so the first concern is over its fired dimensions, but even if the used brass was shot through match M14s, for instance, no one knows what manner of chamber these other rifles might have had (and there is generous latitude in what could qualify for a "match" M14). This is not necessarily to say that the other guns had bad chambers, but it is to say that any differences in chambers (such as headspace tolerance) can form up cases that may never be suitable for another rifle. If someone wants to carry a cartridge headspace gage with him to a gun show, much in the same way a serious jewelry buyer would carry a loupe to a gem expo, have at it.



It is possible, given the time and tools, to get a fair indication of the suitability of elsewhere-fired brass. I had a sack of some 1200 rounds of once fired LC Match 7.62 dropped off as a nice favor and found 192 cases suitable for re-use in my rifle. The brass came from a (normally) reputable source who collected spent brass issued at leg matches, although I did uncover one event's worth of many-fired cases (those yellow Remington® primers don't fool anyone) and enough commercial cases thrown in to fill out the count.

Well. That is supposed to be a .308 beside one that is a .308.

One batch of these cases showed as much as 0.060 growth in length, deeply cratered primers, pressure ringed heads, and a few splits — and those *were* once-fired! I didn't count many in this condition and surmised that this shooter had quit early.

How does anyone know what to make of a great deal on once fired brass? Load it up

Sized, trimmed, decrimped, and shined up is one way to purchase especially 5.56 in bulk. I think a fellow can do better using his own tools, or at least he can know what he's got when he's done. There may not be a heck of a lot of performance difference in using "factory serviced" once fireds and new commercial, in one way of looking at it. If you're going to get some, get it all from the same batch, or at least the same headstamp (not to be confused). Now that I've been thinking about it, if the stuff is cheap enough and seems to work well enough, a powder meter, priming tool, and bullet seater is a marginal tool investment for the man on a budget (assuming these cases would be fired and then resold), although recycling his own purchased new cases will still save in the long run.

straight away or pick at it? Best pick at it. "Case segregation" is a buzz term associated primarily with the bench bound, but for once-fireds it's not done to find the best cases, necessarily, but to eliminate any bad ones. There can be really bad ones. Better not set standards too high working with Lake City, but set them somewhere.

The first check is to study over it and don't take any case that appears not to be once-fired or looks to have a problem: deeply cratered or partially dislodged primer, shiny ring near the head, creased neck, heavy patina or other evidence of corrosion, bulges, or so on. If it looks like it has a problem, it probably does. Considering that 0.005 or less defines most maxi-mini tolerances involved in a cartridge case, any that are visibly longer or larger are way far gone.

The next check can be done using a "drop in" cartridge case gage. These are sold by various makers and one end indicates headspace (case head end) and the other shows length (case neck end). Read the headspace first. Hopefully, a case will plunk down in the sleeve and go flush with at least the top step. If it doesn't, compare it to what the gage normally shows on brass fired in the rifle it is to be reused in — if it's not worse than that then it's probably okay, after small-base sizing. Realize, though, that a case that's blown over the gage i.d. might better be turned loose one or two firings before "normal." If any folks hedge on confidence, put those cases in the trash can.

Assuming that a case passes tolerance in case body and headspace, turn the gage over and check for excessive length; again judge this against what normally comes from your rifle and send any that are much over that to the trash can. A case mouth protruding beyond the top step prior to sizing is well over long and most definitely indicates the rifle had a problem (the increase has to come from somewhere, and the head is the only place on a once-fired case; a case with a blown shoulder wouldn't go into the gage far enough to show excessive case length on the neck end). Accept no more than 0.010 growth and know that is too much.

If a handloader (wisely) uses a decimal measurement device for headspace checks, he should compare the brass to what his rifle reads on a fired case and not accept more than 0.003 over that number. Although decimal gages (such as the RCBS® Case Micrometer) are the hot ticket for sizing die set up and notetaking accuracy, a drop in gage makes this process of segregation much easier and faster, plus it may show a few things that a decimal tool won't.

Decimal gages which touch only the case shoulder and base are not influenced by case body size or condition. Measuring a fired case in a drop in gage can be misleading because the depth the case will drop into the sleeve may be impeded by a hangup elsewhere, which may be misread as a blown shoulder. This is a minor point since it may not affect a reading off a sized case, but be aware of it. Think about how the gage works. A backed out primer will corrupt the reading from some decimal gages (although the backed out primer itself may indicate a problem). Make sure to punch out the primer without sizing the case when checking shoulder dimensions to prevent the primer from influencing the reading. Even a small tick turned up on the primer can represent the few thousandths which separate insufficient from excessive headspace and thereby corrupt the reading.

It is true that any brass that's been through any M14 is not liable to plunk down much

Pre-flight any and all once fired. For this I use a drop in gage and "intuition." I can't describe my standards because it's sort of subjective. I can tell if brass has been thrashed, and most will be able to also after handling enough cases. Then note extra effort in sizing on the survivors and look afterward for excessive length; again, it's subjective based on what someone reads from his own first fired. It's interesting to do this sort of inspection since it gives the opportunity to witness varying results with the very same ammunition, and also shows the role of the rifle in the marks it leaves behind. No reloading problems to blame.

below the top step on a drop-in gage, but if a case won't easily go into the gage (which means that it will fall right back out) keep in mind that any such a gage is normally cut to maximum (and usually maximum-plus) dimensions to allow good use with neck-only sized cases: it replicates a big chamber. We may have to tolerate high numbers, and we often can, and mostly because we believe we need the brass.

Several of the aforementioned cases in my 1200 item sample showed no evidence of headspace problems or excessive body diameter but still wouldn't fit into the gage. There were two culprits. One was bent case necks caused on ejection. While a headspace gage is pretty generous on case diameters, it's not normally generous enough to accommodate an out of round neck, especially not with the LCs having normally thicker than commercial neck walls. Such cases should still be keepers assuming no structural damage existed; necks usually get damaged on ejection, not firing.

Another batch in my sample had off center rims that hung on the edge of the gage opening and prevented full insertion. Checking runout on the case body showed normal tolerance, but adjusting the needle to ride on the edge of the case rim revealed anywhere from 0.005-0.010 runout. Such a condition in a once fired case normally results from a problem in the alignment of the bolt face and chamber. These particular cases all had off center firing pin indentations on the primers, but so too did many that showed no rim runout.

The ejector on an M14 bolt is powerful, which means that it bears very forcibly on the case head of a chambered round. Given a slightly large chamber, a case with uneven wall thicknesses, and any sort of problem with case to chamber to bolt alignment, and the rim can get off plumb with the case body right off. Any of these conditions can result in a misplaced rim, but seeing this result on a first firing especially points to action disorder. Uneven case walls and ejector pressure usually take more than one firing to noticeably warp a case body.

Although it's not its intended function, using a drop in gage also points out brass with a problem when viewed from the mouth end: a wider or narrower gap around the periphery of case mouth and gage opening indicates out of round. Again, if it can be seen it's nasty big.

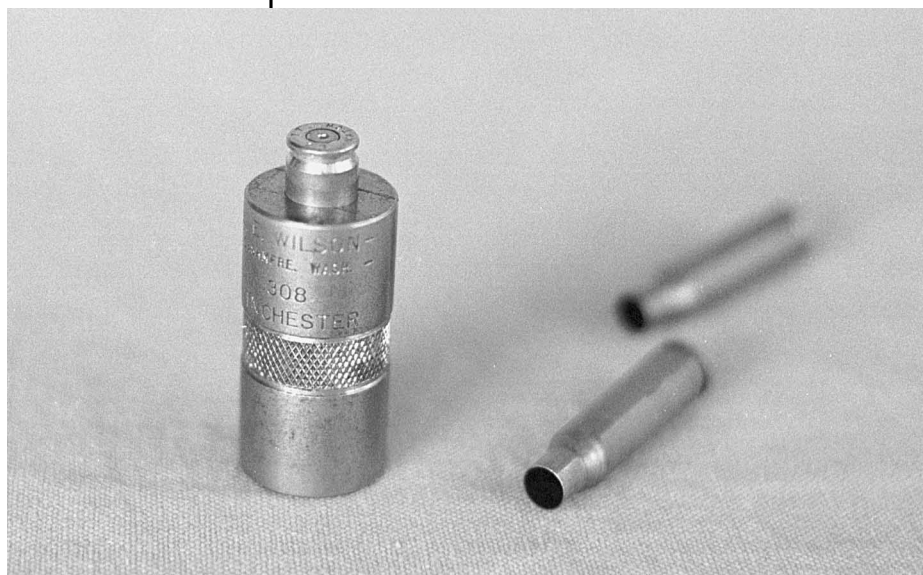
I will unhesitatingly size any case that passes the "drop test" in my case gage.

The final appraisal comes from paying attention during and after resizing the cases. Undue effort (compared to, I guess, due effort: whatever is usual) in running the press ram, don't use the case. Follow up sizing with another headspace check. A case may not get enough shoulder set back on the first press stroke. If it doesn't, "double size" the case and check again. Inspect the sized cases for further evidence of any problems. Check the case head area for unusual or uneven amounts of swaging and check the necks and shoulders for any signs of damage.

Remember, we're doing something here — using brass that was not only not fired in its "new" rifle but was exposed to virtually unknown circumstances — that is never recommended as a "precision" handloading tactic.

Years of observation have pointed out the truly perplexing attitude many, and maybe most, M14 and AR15 shooters have about ammunition. They are one of the few groups of

Be wary of purchasing once-fired military brass. Much of what sells through the trade papers or at gun shows is range dump, often from machine guns like the M60. M60s are chambered to run "dirty." This trait is desirable for a battle weapon but will not likely accommodate the specifications built into a competition rifle (the giveaway on M60 brass is striations running along the case walls).



A drop in cartridge gage will get the overtly bad ones at the get go. Bud, if it won't go in here it shouldn't go in your rifle. Here's a swelled, off kilter, blown out, or something-wrong-with-it case that's not okay.

competitive shooters who spend big bucks on a "match" rifle and don't take up "match" reloading practices. Part of this stems from the unknowingly poor opinion many gas gunners have of their firearms, but think about that: if anyone spent better than two grand on a rifle, why is he dumpster diving for cartridge cases to shoot in it?

I am not being picky. I am being particular. There is a big difference between segregating cases for superiority and segregating for safety. Attempting to use unsuitable brass for reasons of money savings is blockhead economics. Amortized over as few as three or four firings, a cartridge case is just about the least expensive component in the process — and it's the one that can either cause or prevent the most troubles. Saving a few cents on a case intended for use in a target rifle makes no more sense than driving a Porsche® all over town looking for gas that's a penny cheaper.

If LC supply is a problem, the M14 shooter will be better off purchasing new IMI® cases and working fresh from those. There is no magic in LC brass — it just happens to be structurally correct for this rifle, but so is IMI®.

In case anyone thinks I just up and quit on this halfway through, review everything that was said for the 7.62s and do the same with any and all 5.56. Better luck is forthcoming,

usually, but don't take a chance on anything. Due, I think, to the rifle design and, correspondingly, its operation and parts tolerance, there's not as much brass destruction potential from "any man's" AR15. Get WW® bulk commercial for comparative pittance, IMI® for less, and some of the reworked LC or WCC (sized, trimmed, decrimped) is subsidy-cheap.

Another alternative espoused by some is purchasing primed cases,

loading them up and living large. Bunk. New primed cases need the same sizing, neck, and case mouth treatment as do new unprimed cases. Thing is, of course, that they can't use a die with a decapping pin, and there's no good way to clean them after fixing up the case mouths (even without the decapping pin, the pressure from running a primed case into a sizing die can unseat a primer a might too, seen it happen). Why bother? If it's not ready to shoot as it is, may as well make it good to shoot in the same time frame, don't you think?

Same old: the primers in those primed cases are decidedly not the same primers they might be reloaded with. Not the same load, no notes to know. Some who advocate this idea do say to resell the cases as once fireds and go on and get some more. Gee, that's a value: drive down, buy a ticket, and spend half a day at a gun show sidestepping some guy with six rifles slung on his shoulders and two hundred buttons on his hat. I'd rather be home loading (or out shooting) or at the dentist's office.

Another guideline I follow is making sure a fired case can hold water... Good googely moogely. This case has a problem. It's a once-fired LC that came from a batch of cases I got. Since there weren't too many similar in the bag (you can tell when you go through a huge pile -- fired brass is like fingerprints), I doubt the poor old fuller who owned this poorly made rifle made it through the morning's off-hand. Notice the crack in the neck and the head separation. The shoulders were blown a good 0.005 more than my rifle does. I didn't use it. There was more in my Kroger® sack that wouldn't even do to measure. He or his bumsmith might be advised to use a chamber reamer instead of a hand drill on his next rebarrelling project.

Doubling Up

Since we're on this topic of brass from the wrong side of the tracks, when sizing LC 7.62x51, it may take more than one lube and pass through the die. Especially if they are a group of once fired (once fried) of uncertain origin, a check with a headspace gage may easily show some sizing "more" (shorter) than others, and some that don't seem to size much at all, and maybe not enough. LC is hard and, therefore, tends to have a good deal of spring back (which is just what it sounds like it is: comparative tendency to want to return to presized dimension). Also, because it's thick that means a lot of tension and drag inside the neck.

The simple way is to simply size the cases twice: size once, rotate (not necessary, but, why not do it) and size again. Be deliberate and positive on the press handle stroke. Realize that the shoulder we're trying to push back doesn't much want to move. Don't hammer on the press handle, but feel a positive stop. Retract the case using the same deliberate stroke, smoothly easing the case neck back over the expander.

Don't spare the lube on LC! And make sure the necks are clean and got their own little dab of spooge. Using the recommended lubrication product (Imperial®) it's commonsensically impossible to put too much on a case: since the lube is rubbed on with the fingers, there is almost no much chance of a standing gooze bog to cause pressure denting.

This double sizing routine should get the shoulders where they are supposed to be and should also contribute to getting all cases to the same specs. It's common enough also to find that what was thought to have been set as a headspace tolerance for the sizing die was actually a little longer than what was found after re-sizing the cases. The second sizing measurement shows what the die is set to. Check it out (it doesn't just "work" that way on LC).

Commercial cases, which is to say those of a more malleable composition, don't seem to succumb to these sizing inconsistencies like LCs (or similar) do, but it's not just the softer brass. As intoned, it's also partially due to the thicker, often "rougher" case neck walls, the extra expansion most M14 cases endure, neglecting the additional lubrication

these cases (really) need, along with other smaller contributors. It's not normally one thing that can cause it, so don't expect there to be one thing that will solve it.



Take precautions and don't wonder: it is much faster in the long run to do something like take an additional press stroke per case to double-size it than it is to check each case for headspace, and then, of course, to resize the cases that may need it then. It will not hurt the brass. It is also much faster in the long run to batch each case through a case trimmer, letting those that need it get it, than it is to check each one and trim only the long.