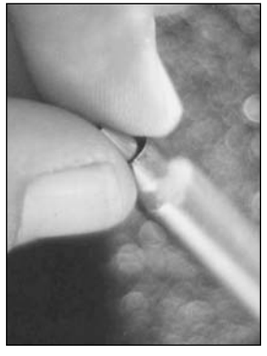
Here's what to check after three firings, that's counting the original on a new case. So, to be clear: the case has been fired three times, reused two times.

The case neck is the primary concern, and the first thing to look at. If the walls get too thick it's possible to cut the space too close between the case neck and the case neck area in the rifle chamber. There might be interference upon bullet release.



The most rude check is to see if a bullet will freely drop into a fired case neck. If it won't, **stop**. Don't reuse that case until it's been refurbished. That test reveals **excessive** thickening.

Somewhere in your notes should be an entry about **loaded round case neck outside diameter**, on new brass. This dimension is totally exclusive of the sized case neck readings, because when the bullet is seated, the neck is going to expand to accommodate the bullet. If an inside neck sizing appliance is used, either a sizing button on the die stem or a mandrel as a separate operation, then a check of outside neck diameter after sizing will show if there's been thickening. And, as quickly and correctly supposed, there also ought to be an entry under the heading: "sized case neck outside diameter." Check the fired cases, after sizing or seating, with respect to these references. If the loaded or sized case neck outside diameter is bigger, then the case neck walls have thicknened. I hope it's clear enough why it's important to "write everything down." References, standards, help. It's also clear why it's important to reference new brass.

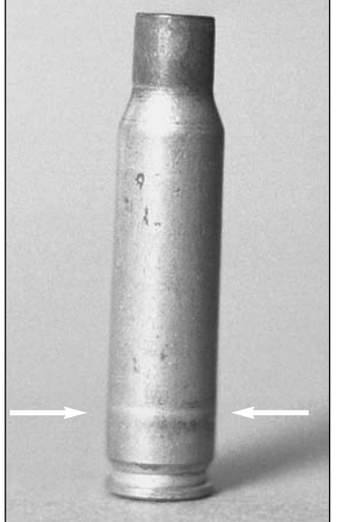
Different chambers will accommodate different outside neck diameters. That was up to the architect of the reamer. In the same, different chambers will accept more case neck cylinder length than others. There, of course, is a gage for this and Sinclair sells them, but I never saw it as necessary because there's no reason to know: just trim to an accepted length and put it out of your mind. There's zilcho advantage to being able to grow a longer case neck.

Checks of the neck walls themselves using a suitable tool will show thickening. However! Case necks don't necessarily thicken the same over the entire span of the case neck cylinder. Remember, the brass is flowing so moves in a direction, and that part of the case has a wave going forward, toward the muzzle. Right, there can and likely will be a tapering from thicker to thinner. Safety is one thing, and the most important thing, and then the other thing is accuracy. Case neck "tension" needs to be consistent from loading to loading to get reliable accuracy (same sight zero and small groups).

Brass gets harder, as said many times, and that affects its reaction to being sized or otherwise stretched. As with many metals, bend it back and forth enough times and it will break. It will also fail if it loses enough resilience, or thickness, or both, to withstand the pressures of firing. These are the sources for cracked case necks and cracked bodies, near the head area. Those two areas endure the majority of stress: one from sizing, primarily, and the other from firing stress. A case is thickest right at the head area, just above the extractor groove (technically, it's called the "web"). That portion of the case does not expand to grip the chamber, but the area immediately ahead of it does. So the case body expands to grip the chamber, but that last little bit back to the base can and does move. And that's where the "head separation" occurs. It's pulling the body. If you see a ring, noticeable because it's lighter color than the case body, and it's in this area, I'd say that case is done. Early in its life, I'd also say to scale back the propellant charge a might, or more. Another sure sign it's done is a crack. It will break slap in two, and that's the "separation" part of case head separation we've talked about.

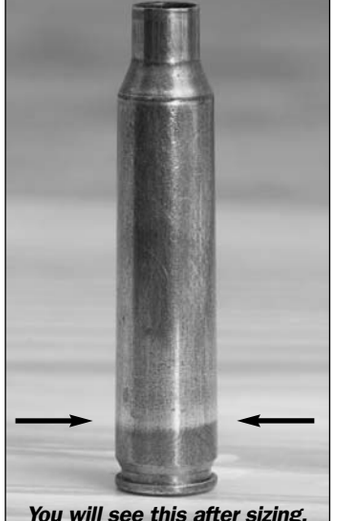
If you look at a full-length resized case you might see a line called, yep, a "sizing line," that shows the distinction between the area that

You will see this immediately upon spent case extraction.



Here is a pressure ring. It's right where the case will separate. Often this is from a headspace mis-match.

This is a sizing line. It's perfectly normal, although the degree reflects on the pressure/expansion level, and chamber size.



You will see this after sizing. Perfectly normal.