

.410 Chamber Dimensions



I shoot sporting clays and do about 60 tournaments a year, but also love to upland bird hunt in the Dakota's & Minnesota.

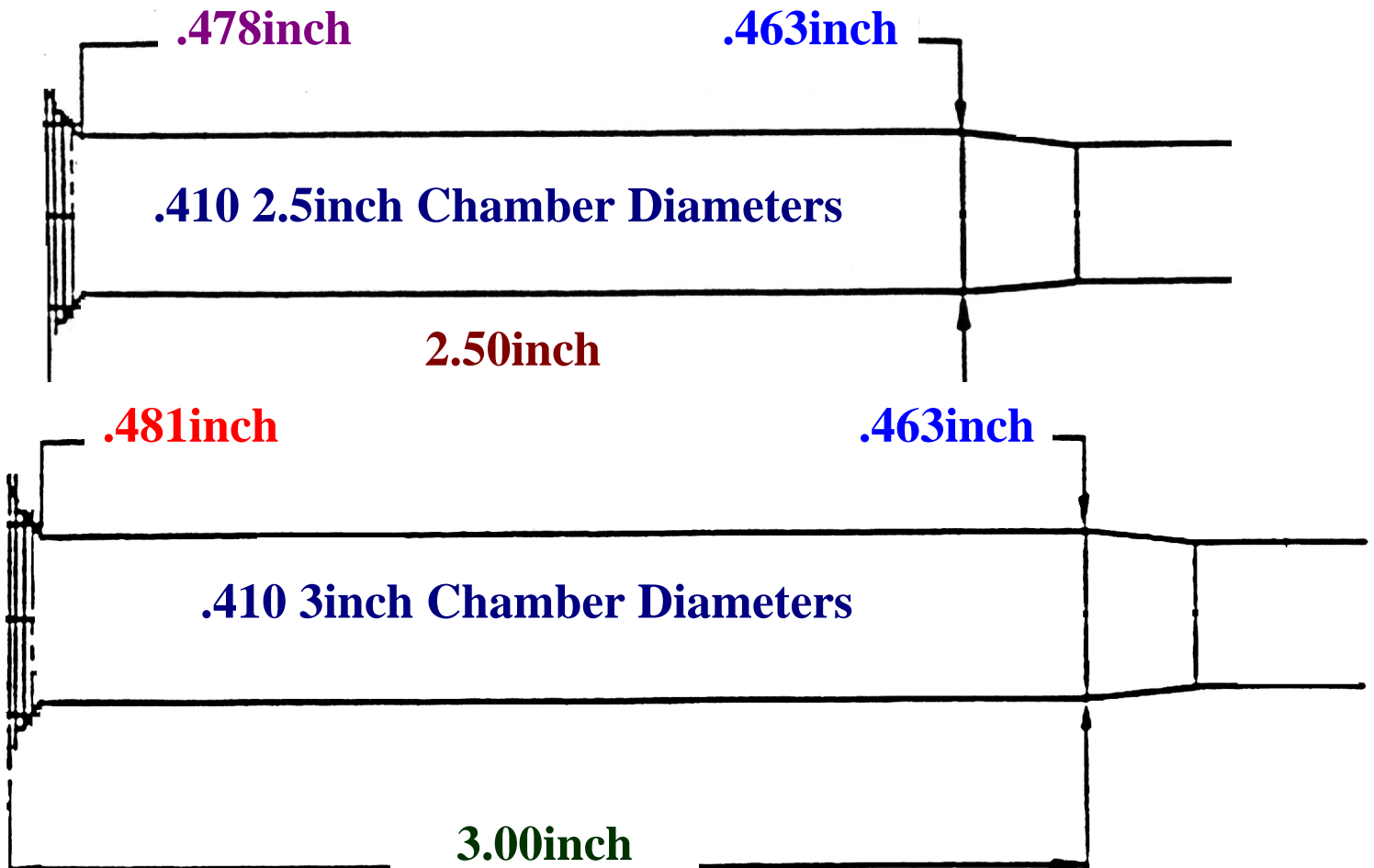
I recently had a 28/410ga side by side made for me by Perugini & Visini (left) with some pretty tight

chambers and am having some difficulty with getting reloads to fit into the chamber. What are the standard chamber dimensions for the 3" 410,,Is it different for the 2 1/2" shell? I'm also considering Improved Modified & Light full chokes, is this a good idea? Rick

European guns can be a bit on the tight side, both in the bore and chamber. Taken from the SAAMI specifications, the actual .410 chamber dimensions are similar. The 3inch chamber tapers down from .481inch just behind the rim flange, to .463inch at the start of the chamber cone.

By comparison the 2 1/2inch chamber runs from .478inch behind the rim flange to .463inch at the start of the chamber cone. So the 2 1/2 inch chamber can run a little tighter at the breech end. .410 bore diameters can and do vary widely, but the SAAMI specifications allow from a minimum of .410 inch (10.41mm), up to plus 20thou of an inch (.430 inch/10.92mm).

If we look at the diagrams of each chamber length, there is an extended taper form with the three-inch chamber when compared to that of the 2½ inch version. The 2½ inch chamber taper runs from .478inches to .463inches in a fraction under 2½ inches. This reduced in diameter by 15 thousandths of an inch for the



chamber run length. Conversely, the three-inch chamber drops from .481inch to .463inch, which is an 18thousandths of an inch reduction in chamber diameter along its length, or 3 thou wider at the chamber mouth.

The 2 ½ inch chamber drops 6 thou in diameter per inch of chamber length, and so because it drops 18thou in three inches of length, we can see that the three-inch chamber also has the same taper, but because it is a half inch longer, it is therefore necessarily an extra 3 thou wider at the chamber mouth.



These dimensions were almost certainly chosen so that the same tooling could be used to finish either length of .410 chamber; this would simplify things at the factory.

Tighter than normal resizing rings can be had for some .410 reloaders (EG MEC), and these return the case heads to a tight factory as new diameter.

Also the supersizer (pictured left) again from MEC, is available and returns fired hulls to factory new specifications. Price around \$90.

www.mecreloaders.com/ProductLine/SuperSizer.asp

Going this route is fine, as long as you do not also intend to use these reloaded shells, in guns with wider chamber mouths than those of your tightly chambered European shotgun.

This is because the repeated movement of the metal by this more extreme resizing, after being fired in a more generously sized chamber, can shorten the reloading life of the hull considerably.

This repeated swaging back down to the original size, will more readily split at the metal head due to metal fatigue — especially with steel headed hulls. Brass headed hulls are certainly more pliable, but even these are not immune to failure in this regard, as they can ‘work harden’ surprisingly quickly.

Using heat to anneal the brass heads and soften them again, as can be done with solid brass cases, is clearly out of the question!

You can also try polishing the chambers to ease the path of your reloaded shells, but care needs to be taken here, as only the very finest polishing compounds should be used to avoid going oversize.

Personally I have the chambers on my European made .410 shotguns opened up to closely match the dimensions of my Remington .410 1100 Sporting Clays gun. This simplifies the ammo supply situation considerably, helping to extend the useful life of the hulls, and also helps to produce similar breech pressures from my reloads in all of my .410 shotguns.

As for your choke question, I do not like heavy degrees of choke in the .410 as it tends to be counter productive, and damages a lot of shot pellets at the chokes: Unfortunately some European guns come seriously overchoked.

I use Light Mod and Mod for just about everything, and change the shell type and its contents, to either get more or less spread as required

(See Tim’s .410 book for more info: www.4-10.co.uk)