TUBB®

Writeup on 33XC and 37XC

After shooting a .338 Lapua Improved and then necking it up to .375 followed by 3 different .375 Cheytacs, I came to definitive conclusions about what I think would be the better cartridge approach to shooting ELR.

The best results will always be from a qualified single source supplier. This means that the brass cartridge/resize die/seating die/chamber specifications all work hand in hand with results being a better product for the end user. This is exactly what is occurring with the 33XC and 37XC cartridges and their components being purchased through Superior Shooting Systems (www.davidtubb.com).

In my opinion, for the average user, the .338 Lapua Improved is too much work. There is an ill-conceived design surrounding the .338 Lapua Improved as the current reamer head spacing as well as available resize die parameters work to create a short case life. The end result gives approximately 10 grains more powder capacity.

Necking the .338 Lapua improved up to .375 is a good direction to follow.
From shooting and borescoping the .375/.338 Lapua Improved, the barrel life (108 grains of H1000) was very good. I shot over 1500 rounds and the throat looked excellent at that point with velocities hovering around 2960 fps.

Next, I chambered up 3 different .375 Cheytacs with the conclusion that the case is overbore (too much case capacity, but probably a good choice with a .408 bore diameter) along with too shallow a shoulder angle. The .375 Cheytac uses over 35 grains more powder to achieve only another 100 feet per second over the .375/.338 Lapua Improved.

Cheytac Issues are as follows:

1. One must buy a new larger reloading press to accommodate larger diameter dies.
2. The custom dies are overpriced, and they still may not work as well as I'd like them to.
3. Need a larger action diameter - so figure a new gun is in order.

Several thousand dollars later after all of this has been accomplished you now have a .375 Cheytac. From shooting and borescoping the .375 Cheytacs, the barrel life was short (2 of the barrels barely made it to 500 rounds, each with lathe turned solids).

I prefer the best of both worlds along with the ability to use my TUBBGUN™ platform which allows "at the range/on the bench" caliber changes, so the 33XC (necked up to 37 XC if desired) came to life.

The 33XC uses standard reloading dies along with a 7/8" x 14 tpi (threads per inch) reloading press. There is no fireforming and all the case "improving" is done in a production case (20 grains more powder capacity, 35-degree shoulder, and longer neck when compared to a .338 Lapua).

This puts the various .338 Lapua wildcats and the Remington Ultra mag Improved into the "also ran" category. They simply can't compete with the velocities attainable with the 33XC.

The 33XC (e**X**tra **C**apacity) has (137.5 gr of H2O capacity) with over 125 grains of useable powder capacity while leaving the .393" neck unfilled for bullet seating (as it should be) depending on the powder density and drop tube length.

Both the 33XC and 37XC are based off of a .580" bolt head. A fired case will extract with little effort when using a properly polished chamber with a maximum powder charge and resized in the Superior Shooting Systems A7 tool steel resize die. This 33XC/37XC die small bases the case head which is vitally important for accuracy.

Peterson Cartridge Company is making the 33XC brass for Superior Shooting Systems. Brass is $2.30 per piece and is sold in boxes of 50 for $115. Both 33XC/37XC can be purchased directly from Superior Shooting Systems (davidtubb.com) or by calling (806)-323-9488. To avoid any confusion, the 33XC is the parent case for the 37XC. You can buy 33XC brass from Superior Shooting Systems (SSS) that has been necked up to 37XC for an additional 15 cents each.

FYI – There is not any of this brass that is head stamped 37XC. It is all 33XC brass with the neck being enlarged to .375
(YouTube link regarding this is posted at the end of this article).

The 33XC/37XC die set is designed to be useable with either bullet diameter (both the seater die and the resize die).

Price for the set is $330.00

If purchased individually, the seater die is $165 and the resize die is $175

The 33XC has a 35-degree shoulder angle. It also has .350" more body length (less body taper) as well as an additional .065" longer neck when compared to a .338 Lapua case. Total case overall length is 3.087" (.415" longer than a .338 Lapua).

Modified 33XC and 37XC cases designed to be used with the Hornady case gauge are available from Superior Shooting Systems for $17 each by calling 806-323-9488.

Peterson pressure testing indicates that the 33XC case head will withstand 87,000 psi before the primer pocket becomes loose. If your primer pockets become loose, you need to let your load DOWN.

The 33XC favors 50 BMG (or slower) burn rate powders with either 250 or 300 grains bullets. 300 gr jacketed/lead core bullets leave at over 3150 fps and 250 gr jacketed/lead core yield over 3450 fps. Monolithic 250 grain bullets achieve the same velocities with approximately 3 grains less powder. Test barrel used for this was a 28-inch Schneider 5 P with a 9 twist in a medium weight (4.5lb) profile.

In 37XC, H1000, Retumbo, and IMR 8133 burn rate powders work well. Warner Flatline 361gr bullets easily fly at 3075fps with around 120 grains of either powder. Test barrel -33 inch Schneider 5P barrel with a 8 twist.

If you plan to shoot .338 jacketed /lead core bullets, stay with a 9-twist or slower barrel, otherwise you may lose an occasional bullet from the excessive spin rate of quicker twist barrels.

If you already have a .338 Lapua and desire to rechamber, Superior Shooting Systems has rental 33XC reamers. Dave Manson is making the reamers and gauges, so you can order your own if desired (810-953-0732).

The 33 XC utilizes my design (like the TUBB® 6XC resize die) by the use of A7 tool steel in a resize die (7/8 x 14). The 33XC resize die comes with your choice of 2 different diameter (.365/.367) integral neck shoulder bushings and also a (.400) 37XC integral neck shoulder bushing which doubles for your headspace gauge. Keep in mind you will NOT need to buy a new reloading press as this is designed to work in your standard (7/8x14) press. Additionally, the TUBB® 33XC/37XC competition bullet seater is designed to seat both .338 and .375 diameter bullets. I am currently reloading both 33XC and 37XC calibers on my Dillon 550.

Results of testing from 4 different Schneider barrels – use caution when reloading by starting with a **4-grain reduced charge**.

37XC 33-inch barrel. Warner 361 gr Flatline 7 twist 5P rifling
120 gr H1000. 3055 fps
122 gr RETUMBO 3080 fps

120 gr IMR 8133 3060 fps

33XC with 28-inch Schneider 5 P rifling barrel - 9 twist – medium contour

119.5gr Reloader 50	3200fps with Warner flatline 285gr turned solid bullet
124 gr H50 BMG	3160 fps with Berger 300 gr
128 gr H50 BMG	3380 fps with a 250 Solid Badlands bullet
128 gr H50 BMG	3320 fps with a 250 Sierra
121 gr Reloader 33	3120 fps with a Berger 300 gr
125 gr Reloader 33	3425 fps with a 250 gr Badlands solid
128 gr Reloader 33	3460 fps with a 250 gr Sierra

My most current load (33” barrel) with the 33XC is 119.5 grains of Reloader 50 with 285 gr Warner flatline bullet with TUBB® nose ring going 3200fps. (Hit 3 for 3 coldbore at 2200 yards with this load with a 33XC using a 1:9 twist Schneider barrel).

All of these data loads were gauged by the TUBBGUN bolt opening without case/chamber stickiness associated with pressure. The same group of cases were used and reused for the entire testing with a 28inch barrel.

Keep in mind I did load up to velocities with which I did experience pressure signs. My standard for the above listed loads was to back off the charge by 2 grains and then do a retest for confirmation.

I loaded a single 33XC case over 20 times when breaking in one of the Schneider .338 barrels.

Info on 33XC leadcore/jacketed bullets versus turned solid bullets.
If you plan to shoot a lead core/jacketed bullet, then you want a 1:9 twist barrel (or slower) otherwise you can occasionally lose a bullet from the faster spin rate of quicker twist barrels.
Lathe turned solid bullets can be shot and stabilized from a 1:9 twist.

Dave Manson makes the reamers for the 33XC and the 37XC
His phone number is 810-953-0732.
david@mansonreamers.com

If you already have a .338 Lapua and desire to rechamber, Superior Shooting Systems has rental 33XC reamers.

Note the standard .100" (straight section) throat length on the reamers from Manson for either the 33XC or 37XC are best suited for a turned solid bullet. The 33XC jacketed bullet throat length is .250" (.150" longer than the solid bullet). All the reamers use a 1 ½ degree lead. When ordering reamers from Dave Manson please double check to ensure you are getting the correct freebore for the type of bullet you are desiring to shoot.

If you want to shoot both lead core/jacketed and turned solids bullets, then go with the .250 straight section and a slower twist barrel. You will have to seat the turned solid bullets further out in the case neck since the freebore is longer to accommodate the lead core bullets.

Please note: You will currently need to buy your own separate expander mandrel setup. (Sinclair sells one).

Picture below is (left to right):
338 lapua (empty)--33XC Warner 256gr Flatline – 33XC head – 37XC Warner 361gr Flatline – 375 Cheytac (empty). Note - the XC case length VS. the 375 Cheytac

Picture below: 33XC/37XC Seater die on left (black), 33XC/37XC resize die on right

If using a Dillon 550 reloading press. You will need to insert the bullet at the seating stage of the Dillon550 and then manually remove the loaded round. That is the .250 freebore with Berger 300 grain bullet that engages the rifling in the photo below.

YouTube links regarding 33XC/37XC die sets and information about necking 33XC to 37XC are found in the links below. You may need to copy and paste each link in your web browser to view.

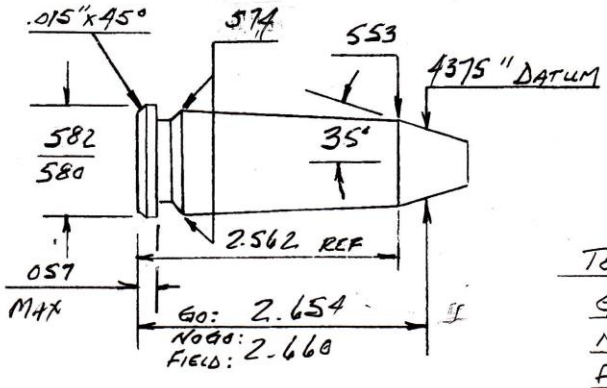
https://youtu.be/kcSpOnwpdbw

https://youtu.be/eMZbETJPcS0

I have a facebook page in which I answer questions regarding the original 6XC as well as the 33XC and 37XC. You can find this facebook page by sending a member request to “TUBB® original 6XC and 33XC/37XC run by David Tubb.” I also periodically post on facebook under my business page titled “David Tubb – Superior Shooting Systems.

Reamer specs

.100 freebore for turned solid bullets and .250 freebore for leadcore/jacketed bullets with both the 33XC and 37XC calibers are shown in the reamer drawings below.



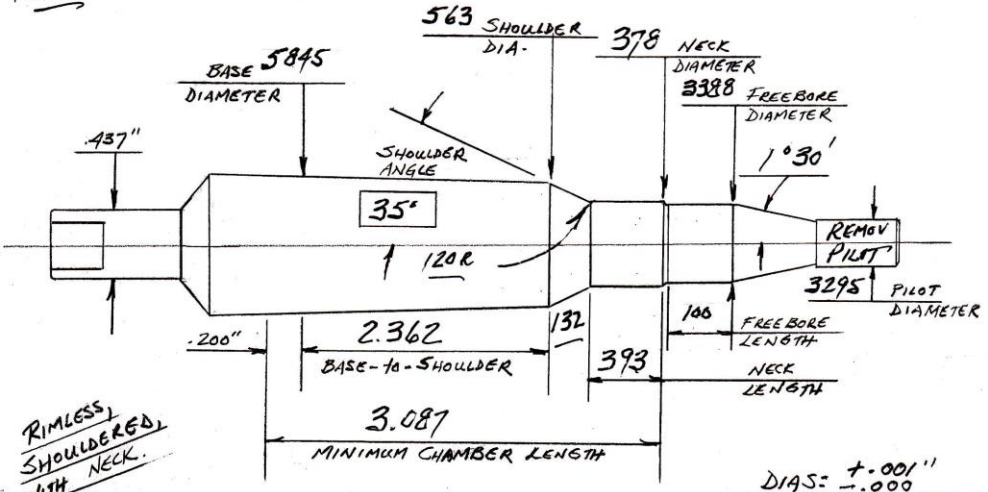
TOLERANCES:
GO: +.0005" −.0000
NOGO: ± .0003"
FIELD: +.0000" −.0005"

dave MANSON Precision Reamers
8200 Embury Rd.
Grand Blanc, MI 48439
Phone:1-810-953-0732
Fax:1-810-953-0735

NAME OF CARTRIDGE 33XC DATE 4/18

CUSTOMER DAVID TUBB (PETERSON BRASS)

REV 1

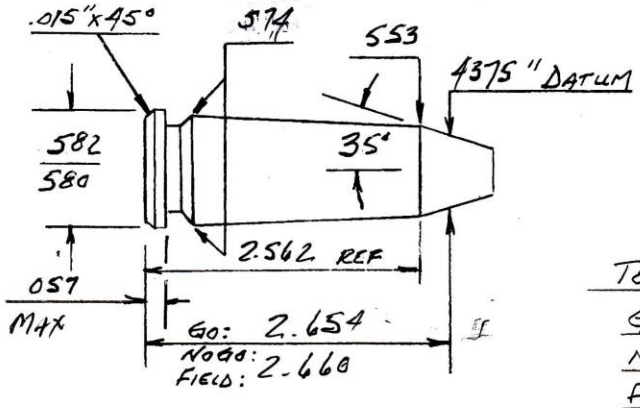


RIMLESS, SHOULDERED, WITH NECK.

CHAMBER/REAMER DIMENSIONS

DIAS: +.001" −.000
LENGTHS: +.005" −.000"
ANGLES: ± 10'

33 XC – Tubb



TOLERANCES:
GO: +.0005" −.0000
NO GO: ± .0003"
FIELD: +.0000" −.0005"

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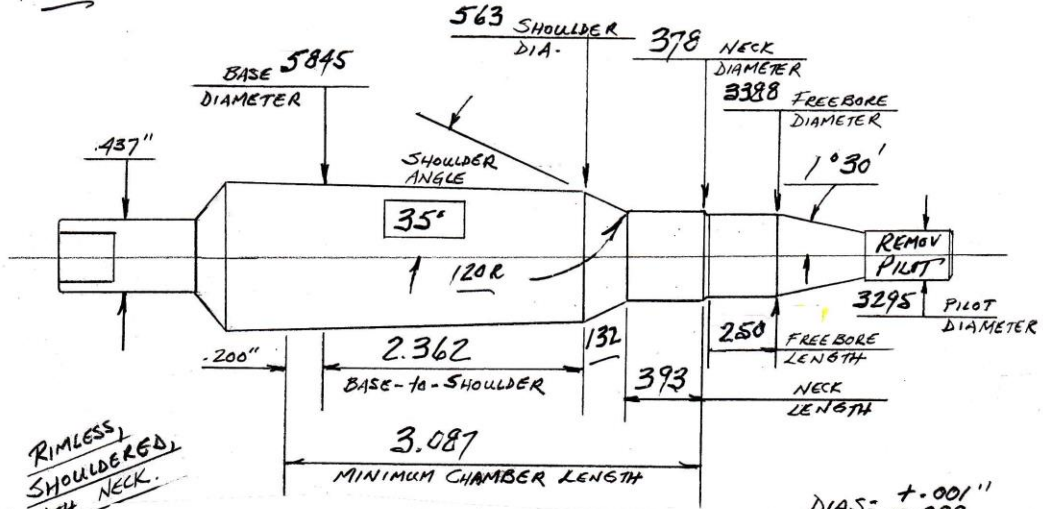
NAME OF CARTRIDGE 33XC DATE 4/18

CUSTOMER DAVID TUBB (PETERSON BRASS)

REV.3



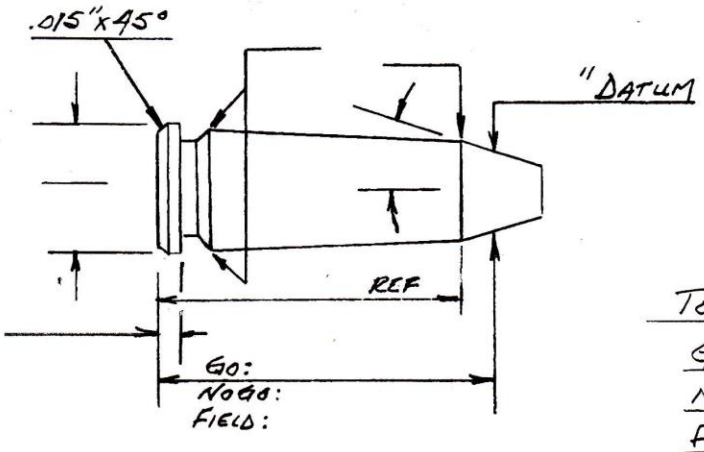
RIMLESS, SHOULDERED, WITH NECK.

CHAMBER/REAMER DIMENSIONS

DIAS: +.001" −.000
LENGTHS: +.005" −.000"
ANGLES: ± 10'

33 XC — TUBB

USE 33XC GAUGES



TOLERANCES:
GO: +.0005" -.0000
NO GO: ± .0003"
FIELD: +.0000" -.0005"

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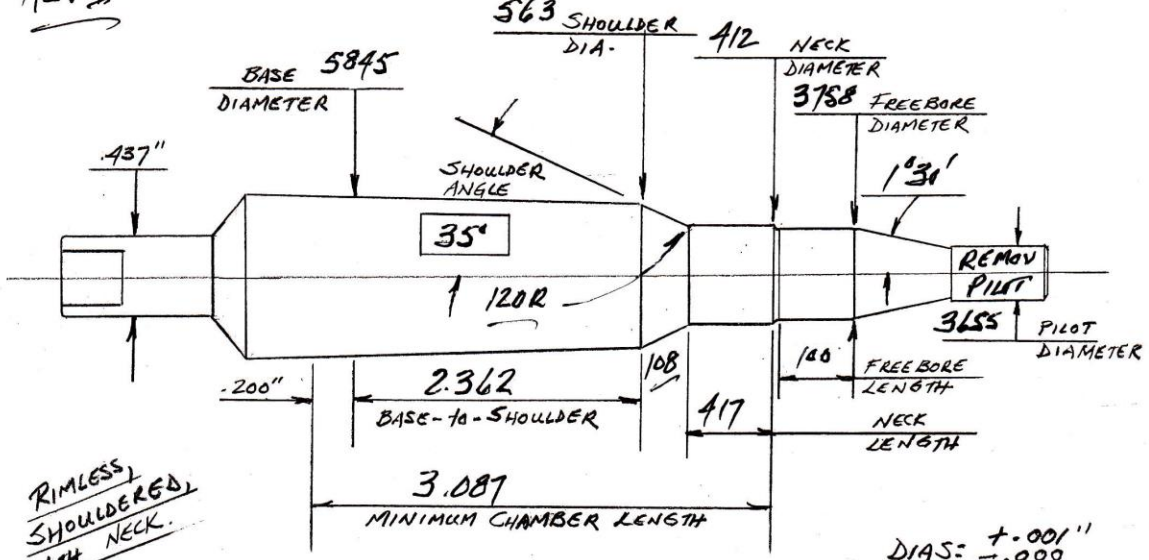
NAME OF CARTRIDGE 375 XC DATE 4/18

CUSTOMER DAVID TABB (PETERSON BRASS)

375XC - TABB

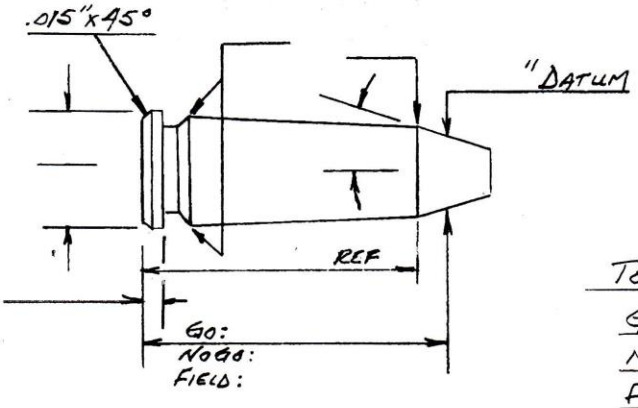
REV 1



CHAMBER / REAMER DIMENSIONS

DIAS: +.001" -.000
LENGTHS: +.005" -.000"
ANGLES: ± 10'

USE 33XC GAUGES



TOLERANCES:
GO: $^{+.0005"}_{-.0000}$
NO GO: ± .0003"
FIELD: $^{+.0000"}_{-.0005"}$

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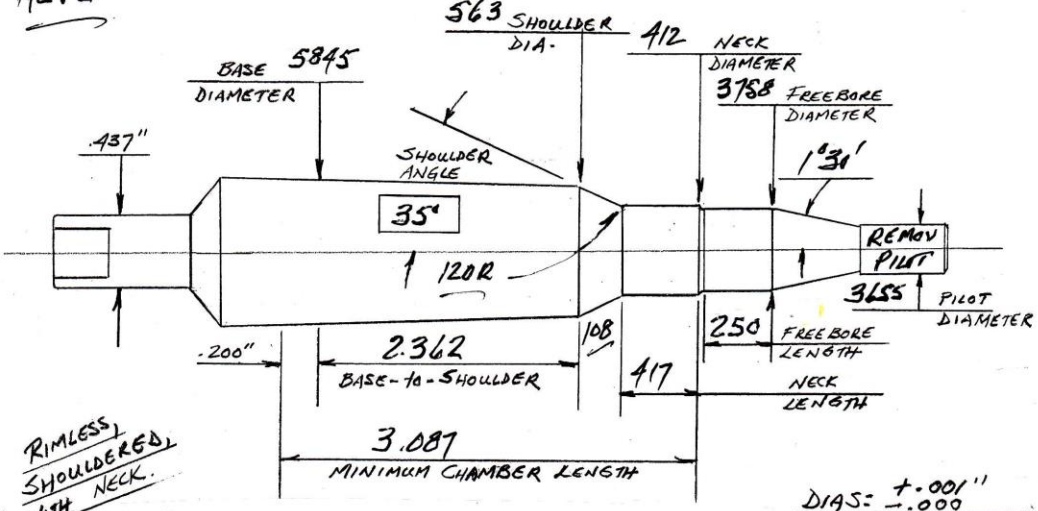
NAME OF CARTRIDGE 37 XC DATE 4/18

CUSTOMER DAVID TABB (PETERSON BRASS)

37 XC - TABB

REV3



RIMLESS, SHOULDERED, WITH NECK.

CHAMBER/REAMER DIMENSIONS

DIAS: $^{+.001"}_{-.000}$
LENGTHS: $^{+.005"}_{-.000"}$
ANGLES: ± 10'