

# THE ACCURATERELOADING.COM BIG BORE FORUMS



Moderators: GeorgeS

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## Terminal Bullet Performance

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capoward

One of Us



posted 17 November 2013 02:32

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quote:

Originally posted by 416Tanzan:  
Thanks, Jim,

On twist, we're fine, as the Tikka is 1 in 10".

My thoughts were on the 'bore-rider' direction since the shank of the bullet is smaller than the bands and only the three bands seem to engage the rifling.

The rear shank, leading to the flat end, is .329" and the front shank, leading to the hollow point is .329". The three bands are .3395-3340". Everything is yellow brass, of course.

I've heard that bore riders can be tricky, though I've never used them.

Tanz,

It's not that the ESP Raptors (ESPR) are bore-riding, or semi-bore-riding in deference to Ron, the issue is the 'dual purpose design' of the ESPR bullets cause them to suffer instability issues when the Talon Tips are installed. And this instability susceptibility is caused by the bullet's balance point being further towards the solid base of the bullet. Many VLD/ULVD bullets suffer this same balance point instability susceptibility. The solution typically identified for the ESPR bullets is to manufacture them shorter which - for lack of a better terminology - provides greater in flight stability from standard twist rates. And even though this shorter length causes the ESPR bullets to be lighter weight it doesn't eliminate their within mass terminal performance.

My personal solution for use of long monometal bullets is to use at least two twist rates faster than is recommended by the bullet manufacturer.

Unfortunately it appears your Tikka just may not work with the ESPR bullets. That's unfortunate.

Jim  
"Life's hard; it's harder if you're stupid"  
John Wayne

Posts: 4954 | Location: Central Texas | Registered: 15 September 2007

RIP

one of us

posted 17 November 2013 02:45

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Jim,

Frankly, I agree with all that you and Dan say, but Gerard Schultz would insist that his bullets are made differently than CEB bullets. GSC has "true drive bands" and many others are "not-so-true." He has a point, but just how much difference does it really make?

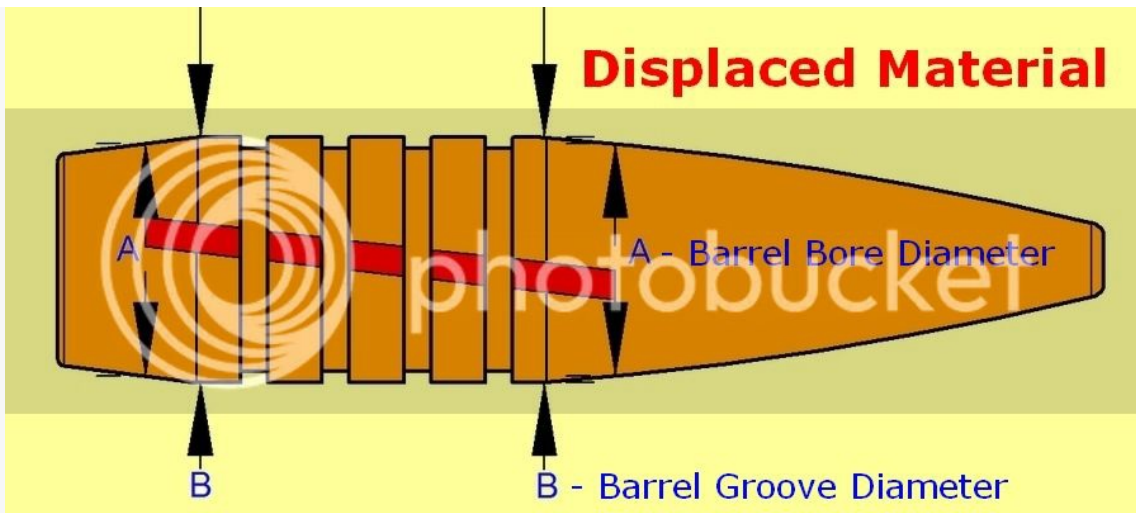
I tried to discuss this subject on a separate thread and got no action except from Gerard. Here goes again. 😊

Really now?  
How important is it to have TRUE DRIVE BANDS  
where band diameter is exactly equal to groove diameter,  
and inter-band shank (minor) diameter is exactly equal to bore/land diameter?  
Is it better to be + 0.0005 on one or the other or both of those bullet diameters?  
Bad to be minus on either bullet diameter?

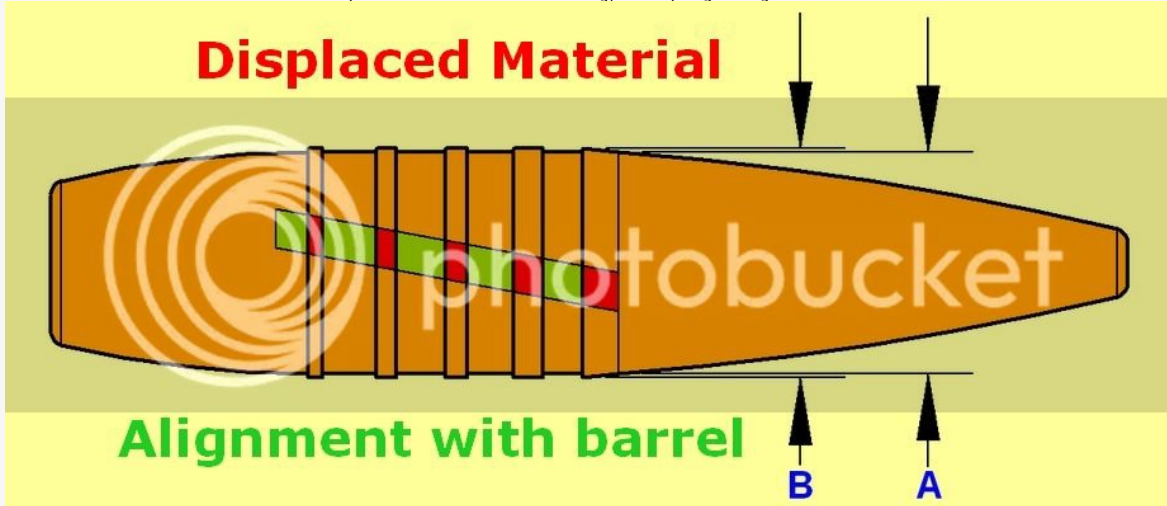
Exact fit is an infinitesimal tail-chaser.  
Better to be infinitesimally bigger than smaller with your bullet diameters versus the barrel diameters?

Are "Not-So-True Drive Bands" really that bad? 🛋️

NOT-SO-TRUE DRIVE BAND: Inter-band shaft is sub-bore-diameter, semi-bore-riding?



TRUE DRIVE BAND: Inter-band shaft is "truly" bore diameter and bore-riding, when you get it right?



For example, this picture shows an engraved GSC HV bullet.  
 But is the minor diameter of the bullet shaft greater than bore diameter of the barrel used?  
 The major diameter of the bullet, on the drive bands, seems to be a good match to the groove diameter:  
 (picture snagged from the GSC website)



Or is that a good fit, in picture immediately above?  
 Just bullet metal smearing across the shaft from the bands?

What would Gerard or Gina say? Hmm? What? 😊

Are they that interested in optimizing the fit of the bullet to the barrel?

"Cat amongst the pigeons."

I believe that is what Gerard calls his bullets. 😊

Gerard had this to say:

quote:

Originally posted by Gerard:

The fit of the bullet in the first post is pretty good. It is obvious from the tops of the drive bands that the seal of gas was effective and that the engraved drive bands resulted in displaced material. The only place that material has to go is rearwards. In the photo below one can see how the drive band material is displaced to the right and down onto the shaft, where there is space for it.

Agreed, slightly over on the size of the shaft is better than under size for accuracy. Where the shaft is two or three micron larger than the diameter of the barrel, there is no measurable pressure increase because of that fact. The diameter of the faces of the lands of a barrel (the bore diameter) will change with use in any case. Extended use will wear away the faces of the lands and the groove diameter and, when either becomes more than 30 micron over size, CIP and SAAMI says the barrel is worn beyond specification.

Cleaning with paste can remove 4 micron at a time and vigorous scrubbing with a dirty bronze brush and liquid, will get to half a micron at a time, in extreme cases.

From the Peanut Gallery:

mi-cron also mi-kron (mkrn)

n. pl. mi-crons or mi-cra (-kr) also mi-krons or mi-kra (-kr)

A unit of length equal to one millionth (10<sup>-6</sup>) of a meter. No longer in technical use.

So we are talking in terms of a micron, 0.00003937", or about 0.00004", eh?

Nominal mm bore and groove diameters + 0 to 3 thousandths of a mm?

I am getting too close to some proprietary information here, eh?

What good will it do anybody unless they can make bullets to a +0.00012"/-0.00000 tolerance?

I would have to find some special equipment to even be able to measure in microns. I will not be holding my breath over that one.

But I would like to give the 400 Whelen every advantage possible. 🤖

With bore and groove diameters of different barrel makes being different, one from another, and even each barrel individually changing over time, with use,

is it practical to custom fit each barrel with it's own special bullet?

Well certainly not for a mass-producer wanting one bullet to work in all rifles of a nominal caliber.

Doesn't that work out very well, most of the time?

Gerard's concluding statement:

quote:

Originally posted by Gerard:

quote:

With bore and groove diameters of different barrel makes being different, one from another, and even each barrel individually changing over time, with use, is it practical to custom fit each barrel with it's own special bullet?

If a manufacturer finds a way to do this, it would be a good thing. That reminds me of someone who said "Be careful what you wish for, it may already exist."

They say it is routine at GSC to adjust the bullet diameters to match your barrel ... I have not done that before except to re-size some .512-caliber HV bands to .510" diameter by use of a Lee Bullet Sizing die. 🤖

Posts: 28032 | Location: KY | Registered: 09 December 2001



416Tanzan  
One of Us



posted 17 November 2013 02:56

[Hide Post](#)

quote:

Originally posted by capoward:

quote:

Originally posted by 416Tanzan:  
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My personal solution for use of long monometal bullets is to use at least two twist rates faster than is recommended by the bullet manufacturer.

Unfortunately it appears your Tikka just may not work with the ESPR bullets. That's unfortunate.

Yes, I'm thinking so. Maybe the new copper 3-prong raptors would work, but the rifle will not be here for testing.

Well, a 3/4"-grouping Tikka, shooting 225 grain TTSX with a .514 BC at 2838 fps, is a nice consolation.

+++++

"A well-rounded hunting battery might include:  
500 AccRel Nyati, 416 Rigby or 416 Ruger, 375Ruger or 338WM, 308 or 270, 243, 223" --  
Conserving creation, hunting the harvest.

Posts: 4253 | Registered: 10 June 2009



RIP  
one  
of  
us

posted 17 November 2013 03:46

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Terminal ballistics:

This bullet is a .416/300-grainer.  
.416" on the bands and .394" on the semi-bore-riding shaft.



Reduce the bands to .411" with a CH4D bullet sizer, or get a special order to proper size from Dan at CEB?  
Only change would be to reduce the major diameter on the bands.  
That would make it slightly lighter than 300 grains, say 295-grain nominal.  
Guaranteed to open down to 1600 fps impact?

GSC has a copper monometal HV that is .411/.403 and 317 grains.  
I need to increase the minor diameter of that one to .404 for my barrels (Shilen).  
That might make it into a 320-grainer. 😊

.411/317gr HV Technical Drawing:



Example of a prototype, with band locations a little different:



Terminals depend more on enough velocity and enough bullet weight to drive the expansion of the copper hollow point bullet. Get the bullet too light for caliber in copper, and then you have to be sure you get the velocity high enough to make it expand. I think I have seen some evidence of that in the .510 Mbogo with a 450-grain HV at 2654 fps. One impacting a cape buffalo at 75 to 80 yards from the muzzle, and the other being a close-range "insurance shot," about 20 feet from the muzzle. Or was it just heavy bone (humerus) that pinched the nose on the slower impacting bullet, while the higher speed impacting bullet hit a softer part of the buffalo?  
BTW, the bullet on the left below is that .510/450-grain HV that went through the humerus and then the heart of the buffalo, one-shot kill. The one on the right was the close-range insurance shot:



The bent-nosed bullet seems to have tumbled through the heart:



I submit that if the ~2600 fps impact could open the bullet so widely on a buffalo neck/spine, then even if it impacted as slow as 2400 fps, it still should have opened very well. So it was that angling attack on the most thick and strong buffalo bone (humerus of shoulder/foreleg) that pinched and bent the bullet nose.

BTW, I seem to have had a very poor fit of my bullet to my barrel, but it still shot 0.75" 3-shot groups at 100 yards (2654 fps with 105 grains of Benchmark), and about 1.5" 3-shot groups at 100 yards (2835 fps with 115 grains of Benchmark), in the 500 Mbogo:





**capoward**  
One of Us



posted 17 November 2013 10:11

[Hide Post](#)

Ron,

I've no good looking drawings like you have. 😊 But it'll still be fun to play. 🎯

Banded True Bore Riding Bullets...

If the definition of 'banded true bore riding bullet' requires the shank to be 'actual bore diameter' and the bands to be 'actual groove diameter' then I must agree Gerard's HV and FN bullets meet this definition based upon his statements.

My only questions are:

- 1) with a full bore diameter shank where does the banding material displace to?
  - 2) If the displaced material is dragged to the tail of the bullet, doesn't that increase the drag, or perhaps more appropriately, doesn't this increase the friction between the bullet and barrel? And finally,
  - 3) If bullets are purchased from the 'shelf' how can they be 'true bore riding' when the bullets aren't perfectly matched to the bore and groove diameters of the rifle the bullets are being purchased for use in?
- One might perceive the above questions to be a 'knock' on GSC but they aren't, I'm just trying to have a better understanding of the issues.

Banded Semi Bore Riding Bullets...

I guess all 'banded non-true bore riding bullets' fall within this listing. So, does that mean if the 'true banded bore riding bullet' doesn't match the barrel's bore and groove dimensions that it now becomes a 'banded semi bore riding bullet'? Regardless, is a 'banded semi bore riding bullet' any less inherently accurate than a 'banded true bore riding bullet'?

Anyway, that's about all I have for tonight - head's still stuffed up from the flu. Personally, I say use the bullet that provides both the best accuracy and optimal terminal performance in your rifle. Anything else is just bait for forum discussions...

Now as Michael would say...it's time to roost...

Jim 🎯

"Life's hard; it's harder if you're stupid"

John Wayne

Posts: 4954 | Location: Central Texas | Registered: 15 September 2007



**boom stick**  
One of Us



posted 17 November 2013 12:10

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Seasons44,

I think these bullets have good performance aiming for the heart and lungs turning them into mush and causing great shock to the animals system. If the shot allowed I would go for those organs rather than the shoulder IMHO.

[577 BME 3"500 KILL ALL 358 GREMLIN 404-375](#)

\*we band of 45-70ers\* (Founder)  
Single Shot Shooters Society S.S.S.S. (Founder)

Posts: 27557 | Location: Where tech companies are trying to control you and brainwash you. | Registered: 29 April 2005



**michael458**  
One of Us



posted 17 November 2013 14:41

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Seasons44.....

Excellent work..... That 150 45 ACP is a very impressive bullet. I have yet to decide on the exact load I am going to use with mine just yet. I think it is the most effective 45 acp bullet I have ever tested, or dealt with at all.....

Tanz, RIP Cappy....

This 338 175 Raptor... 1:10 should be more than enough to stabilize. Of 3 different 338 caliber rifles, two 338 RUM and one 338 WSM, only the 338 WSM liked these bullets. The other bigger RUMs would not shoot them to my satisfaction, yet both the RUM guns loved the 200s..... put them all in a hole. The 338 WSM would put 175s, 200s, and 225s all in a hole????? Why?? I don't have a clue, I just figured one of those things, one rifle likes one thing, the other likes another. The ESP Raptors are sometimes a bitch to work with, maybe try either the 200s, or the ER or Copper ERs..... Believe me, as for terminal performance, the effort is worth it to try and get one of them to shoot.....

Michael

<http://www.b-mriflesandcartridges.com/default.html>

The New Word is "Non-Conventional", add "Conventional" to the Endangered Species List!  
Live Outside The Box of "Conventional Wisdom"

I do Not Own Any Part of Any Bullet Company, I am not in the Employ Of Any Bullet Company. I do not represent, own stock, nor do I receive any proceeds, or monies from ANY BULLET COMPANY. I am not in the bullet business, and have no Bullets to sell to you, nor anyone else.

Posts: 8426 | Location: South Carolina | Registered: 23 June 2008



**michael458**  
One of Us



posted 17 November 2013 14:42

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Oh, forgot to mention, big weekend coming up, got a call from North Fork John yesterday, and he is going to be on my side of the world, so I pick him up on Friday sometime and we plan to have a big weekend of shooting here..... Just FYI.....

M

<http://www.b-mriflesandcartridges.com/default.html>

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Posts: 8426 | Location: South Carolina | Registered: 23 June 2008





michael458  
One of Us



posted 17 November 2013 15:28

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#### BREAKING NEWS FROM SAM IN ZIMBABWE:

I just got off the phone with Sam. Yesterday they had one hell of a time with a "Rogue" elephant it seems..... The sat phone was breaking up, so it was hard to get the full story, but from what I gather they came upon a bull elephant resting under a shade tree yesterday. Decided it was not a shooter, but the elephant wined them and decided for them! He came at full charge, PH shot with 375 HH, no effect, Sam hit him with 577 Nitro, elephant goes down, but not brained, gets up, appie shooting too, PH shooting, Sam Shooting, appie hits elephant in the hip, breaking him down, he is pawing the ground to get to them at this point, Sam hits him in the chest and finally puts the elephant down for good..... in the end, 10-12 ft..... All shots missed brain in this full charge, but the 577 hammered him to the dirt at least a couple of times before the hip shot by the appie. Sounds like it was a full on war with three guns in play..... Very exciting I would think..... In the end, 577 takes him out with heart shot.

Sam is out now hunting either cow buffalo or tuskless..... I was not able to get when he was going to be on his way home?

FootNote: PH is now looking for something bigger than 375..... 😊

Michael

<http://www.b-mriflesandcartridges.com/default.html>

The New Word is "Non-Conventional", add "Conventional" to the Endangered Species List!  
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Posts: **8426** | Location: **South Carolina** | Registered: **23 June 2008**



RIP  
one of us

posted 17 November 2013 17:05

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Exciting news from Sam in Zim, stay tuned for the terminal ballistic details, eh? 📷

Jim,  
I pulled the "semi-bore-rider" term out of my ass,  
or from the AAA Arms and Ammo web site:

Quote from AAA: "Semi-Bore-Rider" is a Trade Mark of AAA Arms & Ammo.

Better terminology would be "Bore-Matching Drive Bands" versus "Non-Bore-Matching Drive Bands" for my purposes.

The importance of this distinction seems to be very small.

As you say, the bands seal the bore (and grooves hopefully).

And, assuming the the bullet has good concentricity, what more alignment can matching the bore diameter between the bands achieve?

Metal displacement issues: Not a biggy. Sparse, skinny bands OK with bore matching and adequate space between the bands. Wider bands like on CEB: Deeper space between bands is a good thing.

Bore-Rider versus Semi-Bore-Rider amongst the 50BMG bullets:



The AAA Harlow 705-grainer on the far left above is a "Semi-Bore-Rider" (moly-coated copper).  
The brass Barnes 800-grainer second from right is a "Bore-Rider."  
The Hornady 750-grain A-Max has no bands and makes no claims to any bore riding status at all.  
The remaining two bullets are GSC HVs, 700-grainer next to the Harlow, and 850-grainer on the far right:  
These two GSC HVs are truly TRUE BORE-RIDERS.

Bore-Riders may be accurate "enough" in a standard throat, but,  
for best accuracy, Bore-Riders require special throating, very short throated,  
with full rifling engagement of the bullet very close to the chamber's case mouth:  
Zero parallel-sided free-bore, leade-only throat, and tight leade at that!

But a Bore-Rider can have a wasp waist in the shaft, like the Barnes which has only two broad bearing bands,  
one on either side of the wasp waist.

"Bore-Riding" matching of a bullet diameter to the bore diameter seems to apply only to the ogive of the bullet,  
where everything in front of the loaded case mouth of the cartridge tapers down from an exact bore diameter,  
and it must match bore diameter only in that critical area,  
to allow zero wobble in starting into the rifling.

And that gets us back to 416Tanzan's .338 where this digression started.



Posts: **28032** | Location: **KY** | Registered: **09 December 2001**



Seasons44  
One of Us

posted 17 November 2013 19:29

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[QUOTE]Originally posted by michael458:  
Seasons44.....

Excellent work..... That 150 45 ACP is a very impressive bullet. I have yet to decide on the exact load I am going to use with mine just yet. I think it is the most effective 45 acp bullet I have ever tested, or dealt with at all.....

Thank you Michael, I am extremely impressed with this bullet as well , theres a reason why the 45 is a step above the 44. If you haven't tried power pistol yet, you won't be disappointed, I think it is a real performer. I am running 9 grains getting 1240 out of a 5" 1911

Seasons44,  
I think these bullets have good performance aiming for the heart and lungs turning them into mush and causing great shock to the animals system. If the shot allowed I would go for those organs rather than the shoulder IMHO.

Boom,  
My plan on this test was to see what these bullets would do if they impacted bone, would they still preform as they are design too. Its not a perfect test but gives us a good idea that these bullets will do if you impact bone by chance.

Simply, Elegant but always approachable



Seasons44  
One of Us



posted 17 November 2013 19:44

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quote:

Originally posted by michael458:  
**BREAKING NEWS FROM SAM IN ZIMBABWE:**

I just got off the phone with Sam. Yesterday they had one hell of a time with a "Rogue" elephant it seems..... The sat phone was breaking up, so it was hard to get the full story, but from what I gather they came upon a bull elephant resting under a shade tree yesterday. Decided it was not a shooter, but the elephant winded them and decided for them! He came at full charge, PH shot with 375 HH, no effect, Sam hit him with 577 Nitro, elephant goes down, but not brained, gets up, appie shooting too, PH shooting, Sam Shooting, appie hits elephant in the hip, breaking him down, he is pawing the ground to get to them at this point, Sam hits him in the chest and finally puts the elephant down for good..... in the end, 10-12 ft..... All shots missed brain in this full charge, but the 577 hammered him to the dirt at least a couple of times before the hip shot by the appie. Sounds like it was a full on war with three guns in play..... Very exciting I would think..... In the end, 577 takes him out with heart shot.

Sam is out now hunting either cow buffalo or tuskless..... I was not able to get when he was going to be on his way home?

FootNote: PH is now looking for something bigger than 375..... 😊

Michael

Sounds like one hell of a time for Sam, Glad nobody got hurt, but seeing how Sam shoots that 577 glad he had the hammer



Simply, Elegant but always approachable



boom stick  
One of Us



posted 17 November 2013 19:55

[Hide Post](#)

quote:

FootNote: PH is now looking for something bigger than 375

And some new underpants! 🍑

Thank goodness Sam had his 577 and super bullets for the elephant poop hitting the fan.

[577 BME 3"500 KILL ALL 358 GREMLIN 404-375](#)

\*we band of 45-70ers\* (Founder)  
Single Shot Shooters Society S.S.S.S. (Founder)



416Tanzan  
One of Us



posted 17 November 2013 20:37

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We will appreciate more updates on that elephant.

It's a good story for the endless discussions about 375 being good enough for dangerous game. Yes, bullet placement is primary, but calibres are chosen because bullet placement is not always ideal. That's why they make larger calibres and is part of the reason for bores that start with '5'. If the PH is a bolt-man, he could do worse than a 500MDM, 500AR Nyati, or 500 A2.

+-----+

"A well-rounded hunting battery might include:  
500 AccRel Nyati, 416 Rigby or 416 Ruger, 375Ruger or 338WM, 308 or 270, 243, 223" --  
Conserving creation, hunting the harvest.



RIP  
one of us



posted 18 November 2013 02:40

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Rat Caliber reviewed in HANDLOADER #287 (DEC 2013-JAN 2014 issue)  
by John Barsness.

This is a review of the review: Nice Article. Limited excerpts below.

Regarding .224-cal, 41-grain, Talon-Tipped CEB Raptor: Author will "be very interested to see how it performs on game."

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*The 40-grain Cutting Edge Raptor weighs 41 grains with the separate plastic tip pushed into place, and it shot very accurately in both rifles.*

would serve to keep pressures safe. Despite the frequent claim that case shape affects pressures, neither piezo-electronic equipment nor muzzle velocity has ever

The bullet performed very well in 1:9" twist 223 WSSM and 1:8" twist .224 Texas Trophy Hunter, with velocities well over 4000 fps and 4-shot groups at 100 yards were 0.70" and 0.65" respectively.

Author, a self-confessed "odd combination of average shooter and real rifle loony,"

said this: "All groups were four shots, a compromise between three and five. Interpret the results however you want." 🤔

From the picture, that bullet nose above could be true bore diameter above the first band,

if so it is a "bore-rider."

It matters not the depth of the grooves in the shaft between the bands.

It is all in the nose.

McGowen got these specs right:

- Twists Available
- 1-7" (4 Groove)
- 1-7.7" (5 Groove)
- 1-8" (6 Groove)
- 1-9" (4 Groove)
- 1-10" (6 Groove)
- 1-12" (4 & 6 Groove)
- 1-14" (4 & 6 Groove)
- 1-16" (6 Groove)

Since the CEB's are so long for weight with tips installed,

I would be tempted to go with the 1:7".

John Barsness did a wee little better on CEB accuracy with the 1:8" instead of 1:9". Faster twist did not hurt accuracy with that bullet.

There was a bizzare anomaly with the Hornady 75-grain A-Max:  
The 1:8" barrel (a cut-rifled Brux make) shot that bullet into 2.63" group,  
while the 1:9" barrel (Lilja make) did 0.78" with same bullet. 😬

John Barsness said the throats on the two rifles were very similar. They must be fairly short throats to work well with what looks like a bore-rider.

BTW, the two cartridges also have nearly identical case capacity.

John Barsness could check this forum if he wants to know about the terminal ballistics of this bullet on game. But he is an "experimenter" and "an experimenter must experiment," so he says.



**michael458**  
One of Us



posted 18 November 2013 14:20

[Hide Post](#)

RIP....

I had two old Win M70 Push feed guns here in 223... One sporter, one heavy barrel. Slow twist rates of course, probably 1:14.... Some time ago I sent both these up to Brian to have both rebarreled. Brian had two stainless super duper match type barrels of some sort, don't recall by who or what. What I do know and requested was fast twist, both these have 1:8 twist rates. Now you know I ain't much of a rat shooter, but at 50 yds when I can do my part which is a chore for me, the 40s and 50s with tips installed are one hole deals... The 55 #13 Hp is a one hole deal as well, I don't recall if I tried the 55s with tips however? These 1:8 barrels will handle them easy. All the 1:9 barrels I have tried are good to go as well. Have one remington, slower twist I think 1:12 that shoots 40 great, 50 ok, 55 ok, add tip to 55 and they are sideways.... Which we would expect.....

M

<http://www.b-mriflesandcartridges.com/default.html>

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Posts: **8426** | Location: **South Carolina** | Registered: **23 June 2008**



**RIP**  
one of us

posted 18 November 2013 19:31

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Terminals are not so good if the bullet keyholes ...  
Without twist, bullet selection is limited, even for rats.

Posts: **28032** | Location: **KY** | Registered: **09 December 2001**



**Whitworth**  
Moderator



posted 18 November 2013 19:47

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quote:

Originally posted by boom stick:  
Seasons44,

I think these bullets have good performance aiming for the heart and lungs turning them into mush and causing great shock to the animals system. If the shot allowed I would go for those organs rather than the shoulder IMHO.

Nonsense. Many, myself included, like high-shoulder shots on animals, something you might not take with a handgun and a light expanding bullet, but it is obvious that this bullet is fully capable of performing well on a high-shoulder shot.

"Ignorance you can correct, you can't fix stupid." JWP

If stupidity hurt, a lot of people would be walking around screaming.

Semper Fidelis

"Building Carpal Tunnel one round at a time"

Posts: **13440** | Location: **Virginia** | Registered: **10 July 2003**



**boom stick**  
One of Us



posted 18 November 2013 23:35

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Yes, it is more than capable of those shots. I was thinking these bullets might have a better stopping power (less distance of game running off) if put in the boiler room and shredded lungs but both would be good I bet. It will be interesting to see the reports on game. No flies on these bullets.

[577 BME 3"500 KILL ALL 358 GREMLIN 404-375](#)

\*we band of 45-70ers\* (Founder)  
Single Shot Shooters Society S.S.S.S. (Founder)

Posts: **27557** | Location: **Where tech companies are trying to control you and brainwash you.** | Registered: **29 April 2005**



**7MMNut**  
new member

posted 19 November 2013 04:57

[Hide Post](#)

quote:

Originally posted by 416Tanzan:

For example, yesterday, in a three-shot group two bullets were almost touching and a third bullet was a flyer about 3" higher.

Is this the common pattern? I ran into this same issue last winter with North Fork bonded cores. My flyers were flying quite that badly, but 1 out of every 3 to 4 shots was always significantly off, while the others were always nice and tight. This was observed in both my son's .308Win and my .300WM.

Spoke to the gents at NF about it and the concern they expressed was about the brass I was using and specifically having consistent neck thickness. They recommended either turning my necks or buying better brass. I went with the latter buying Lapua brass for my son's .308 Win and Norma for my .300WM. No two ways about it, that did the trick in both rifles.

Posts: **584** | Location: **Phoenix, AZ** | Registered: **13 August 2004**



**MikeD**  
One of Us

posted 19 November 2013 22:21

[Hide Post](#)

OK fellas, I'll bite here. If we are going to standardize bullet neck tension, do we inside neck turn or outside neck turn? I'm being serious here, guys, I would really like to know which is which and what is better because if this is going to stop these crazy flyers that we all seem to get, I'm going to do it.

Posts: **97** | Location: **Houston, TX USA** | Registered: **17 April 2002**



capoward  
One of Us



posted 19 November 2013 23:34

[Hide Post](#)

Mike that is an extremely good question and one that I'm certainly not qualified to answer. I am however very interested in the comments and solution.

*Edit Added: I think perhaps an even more important questions are, "what is the proper neck tension for BB accuracy?" And then, "what is the best means to accomplish this proper neck tension?"*

Jim 🙄  
"Life's hard; it's harder if you're stupid"  
John Wayne

Posts: 4954 | Location: Central Texas | Registered: 15 September 2007

RIP  
one of us

posted 20 November 2013 04:27

[Hide Post](#)

Outside-neck turning is a fine art and a science.  
I have some Forster and RCBS tools for it, but never got into it, played with it and found it incredibly tedious.

I am a fine inside neck reamer, much easier.

I had to learn to do that to get rid of the "Dreaded Doughnut" inside the necks of .375/.338 Lapua Magnum wildcat.

Something as simple as that might uniform the necks enough for this.

1. You have to fire your new brass once.
2. Then use inside-neck reamer of bullet diameter.  
It is a simple, pilot-like reamer you chuck into your case trimmer instead of the usual pilot. Mine are from Forster IIRC.
3. After reaming, full-length re-size the brass.
4. Trim the brass to proper length and square the case mouth, chamfer and deburr.

Firing in the a proper, good chamber will make the outside of the brass neck concentric.  
This assumes the chamber neck is not oversize or nonconcentric.  
Then reaming inside of that will hopefully maintain the concentricity and produce uniform enough wall thickness.

About outside-neck turning, I am like President Obama, I know nothing about it until somebody tells me about it long after I needed to know about it.

Obama: The know-nothing president, whose honesty and intelligence have been greatly exaggerated.  
If his lips move again he should be impeached.

I feel better now.  
And I realize I should learn the "truths" of outside-neck turning before the next scandal.

Posts: 28032 | Location: KY | Registered: 09 December 2001

Dave Bush  
One of Us



posted 20 November 2013 21:46

[Hide Post](#)

quote:

Originally posted by MikeD:  
OK fellas, I'll bite here. If we are going to standardize bullet neck tension, do we inside neck turn or outside neck turn? I'm being serious here, guys, I would really like to know which is which and what is better because if this is going to stop these crazy fliers that we all seem to get, I'm going to do it.

What does Shootaway say? 🙄

Dave  
DRSS  
Chapuis 9.3X74  
Chapuis "Jungle" .375 FL  
Krieghoff 500/.416 NE  
Krieghoff 500 NE

"Git as close as y can laddie an then git ten yards closer"

"If the biggest, baddest animals on the planet are on the menu, and you'd rather pay a taxidermist than a mortician, consider the 500 NE as the last word in life insurance." Hornady Handbook of Cartridge Reloading (8th Edition).

Posts: 3728 | Location: Midwest | Registered: 26 November 2006

capoward  
One of Us



posted 20 November 2013 21:59

[Hide Post](#)

quote:

Originally posted by Dave Bush:

quote:

Originally posted by MikeD:  
OK fellas, I'll bite here. If we are going to standardize bullet neck tension, do we inside neck turn or outside neck turn? I'm being serious here, guys, I would really like to know which is which and what is better because if this is going to stop these crazy fliers that we all seem to get, I'm going to do it.

What does Shootaway say? 🙄

🚫 OFF TOPIC!  
No need to bring 'that' into the conversation Dave!

Jim 🙄  
"Life's hard; it's harder if you're stupid"  
John Wayne

Posts: 4954 | Location: Central Texas | Registered: 15 September 2007

MikeD  
One of Us

posted 20 November 2013 22:19

[Hide Post](#)

At the very least, we would have an alternative method for inside neck turning should Shootaway offer his viewpoint.

Posts: 97 | Location: Houston, TX USA | Registered: 17 April 2002

North Fork  
One of Us

posted 21 November 2013 01:04

[Hide Post](#)

Hello,

We like outside neck turning. We have found it easier for us and for others. The sizing die will make the interior of the neck to be concentric forcing the material to the outside. With outside neck turning, this material can then be removed and be concentric with the interior neck bore.

As RIP and 7mmNUT has stated, we have found the neck turning or good brass (Laupa or Norma) is the most significant thing one can do to make the most accurate ammunition possible. We had to convince ourselves and have many times over. If you are experiencing erratic flyers, inconsistent neck tension is the issue.

Regards,  
John

North Fork Technologies  
[www.northforkbullets.com](http://www.northforkbullets.com)

Posts: **158** | Location: **Philomath, Oregon** | Registered: **26 August 2009**



RIP  
one of us

posted 21 November 2013 02:13

[Hide Post](#)

I am going to resume teaching myself to outside-neck turn. It should ideally be done even to the cases that have been inside-neck reamed to get rid of the dreaded doughnuts.

Posts: **28032** | Location: **KY** | Registered: **09 December 2001**



capoward  
One of Us



posted 22 November 2013 03:07

[Hide Post](#)

quote:

Originally posted by RIP:  
I am going to resume teaching myself to outside-neck turn.  
It should ideally be done even to the cases that have been inside-neck reamed to get rid of the dreaded doughnuts.

Just have to assure the cartridge you're inside/outside neck reaming is not a cartridge spec' with a larger shoulder/neck junction diameter than the case mouth diameter - such as the .338 LM - else you might suffer excess in working of the neck area during firing/reloading process resulting in shortened case life with a fully parallel-concentric neck.

Jim   
*"Life's hard; it's harder if you're stupid"*  
John Wayne

Posts: **4954** | Location: **Central Texas** | Registered: **15 September 2007**



RIP  
one of us

posted 22 November 2013 03:52

[Hide Post](#)

quote:

Originally posted by capoward:  
quote:  
Originally posted by RIP:  
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Jim,

You really gotta work on those run-on sentences.  
Think Hemingway, not James Joyce. 😊

The special treatment of reaming then turning applies only to wildcats where it might be necessary.  
And only if necessary.

Best to start with good brass and not have to mess with it, eh?

As to your previous question about outside neck turning:  
There are no absolutes, everything is relative, and it depends. Viking Law.  
For big bore guys, just a remedy for "flyers" due to non-uniform brass.  
But the ratgun shooters swear by it, eh?

I have not had a need for it yet, outside neck turning. Knock wood.

Posts: **28032** | Location: **KY** | Registered: **09 December 2001**



capoward  
One of Us



posted 22 November 2013 04:01

[Hide Post](#)

Ron,

Yep, extremely long sentence. Just lucky it was somewhat coherent since I'm using my iPad. 😊

Jim   
*"Life's hard; it's harder if you're stupid"*  
John Wayne

Posts: **4954** | Location: **Central Texas** | Registered: **15 September 2007**



rsrose  
One of Us

posted 23 November 2013 13:31

[Hide Post](#)

Well I'm back from Africa. I'm worn out from travel but will give you a few tid bits of the hunt. I plan of doing a full report on hunt reports when I get time.

First I hunted with Andrew of Baobabsafaris in the Gache Gache area of Zim on the shores of Lake Kariba. This is a beautiful area.

The first afternoon Andrew and I stalked up on a hippo that was out of the water in the flood plane. It was getting dark fast and I had to keep checking my sights to be sure I could see them. The hippo was feeding away from us as we closed on him. It looked to me like he turned straight away from me so I started walking fast to get up close. As I got to within about 35 yards in dawned on me that he was facing me not away from me. OOPs now I've got a big hippo facing me and that little triangle brain spot looks mighty hard to see in the dark. I tried to focus on it but just couldn't make it out with the bead on it. Thankfully the hippo turned broadside to run to the water and I shot him on the shoulder and then behind the shoulder with a quick right left. Oh the joy of a double. The hippo stumbled from the first shot and tuned away from the second. As he was running into the water I put a third shot into him just forward of the hip quartering away. We had to come back neck morning to recover him because it was dark.

I was using my 577 Heym double with a 650 grain CEB Safari Solid loaded to about 2170 fps. The two broadside shots exited and the follow up quartering shot hit just forward of hip and lodged in the neck just at base of skull. Pretty good penetration having to go through all that stomach material. I was surprised at how little effect even a 577 had on this animal. Even with a perfect shoulder shot he only stumbled. Hunting hippo on the ground might get very interesting if you don't hit the brain!





You can see in second photo the three bullet holes, one in the shoulder, the next behind the shoulder which was quartering a little and the oblong holes that was the third follow up shot as the hippo entered the water. The rib cage photo shows the hole from the follow up shot which ended up at base of skull. Its the hole with the blood pouring out of it.



Here is the bullet recovered from neck. Its nose was sand blasted from going through all the gut material.

Sam





Posts: 2823 | Location: NC | Registered: 08 July 2006

**mete**  
one of us

posted 23 November 2013 13:58

[Hide Post](#)

Very good ! But you'll have to learn the difference between front and back of the hippo !!

Posts: 7636 | Registered: 10 October 2002

**srose**  
One of Us

posted 23 November 2013 14:10

[Hide Post](#)

Yep old eyes are starting to get me in trouble. If it wasn't for my peep sight I would have had to let him go for another day.

Sam

Posts: 2823 | Location: NC | Registered: 08 July 2006

**srose**  
One of Us

posted 23 November 2013 14:21

[Hide Post](#)

So you want to see how a non conventional bullet can save you on a less than perfect shot.

This first photo is of a bushbuck shot at 75 yards running after I missed my first shot just over his back. Guess I'm like the Sundance kid "Can I move?" I hit low chest with a 600 grain CEB Safari Raptor tipped from my 577 Nitro. You can clearly see three of the petals exited above where bullet hit. Bushbuck only ran a few yards after this shot.



The second is another less than perfect shot on a waterbuck with a 700 grain CEB Safari Raptor tipped 577. You again can see the petals moving away from the main bullet. The waterbuck story is long and I'll give that in my hunting report later.



Sam

Posts: 2823 | Location: NC | Registered: 08 July 2006

**ledvm**  
One of Us



posted 23 November 2013 17:13

[Hide Post](#)

Michael,

Here is a question for you. Going to Zim this next year for a strictly trophy bull ele hunt...except for any exceptional trophies of opportunity. Taking my .500 NE double and my scoped .458 WM M70.

Let's say I kill a 100 lb'er the first day...the remainder of the hunt...I will put out some leopard baits. My leopard rifle will be my .458 WM with 420g CEB Safari Raptors going ~2300 fps.

Will that bullet shear on a leopard?

~~~~~  
J. Lane Easter, DVM

Socialism is slavery to government regulation. To be pro socialist is to be pro slavery. You can't have Freedom if you have socialism.

Posts: 34709 | Location: Gainesville, TX | Registered: 24 December 2006

capoward  
One of Us



posted 23 November 2013 20:28

[Hide Post](#)

quote:

Originally posted by ledvm:  
Michael,

Here is a question for you. Going to Zim this next year for a strictly trophy bull ele hunt...except for any exceptional trophies of opportunity. Taking my .500 NE double and my scoped .458 WM M70.

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Will that bullet shear on a leopard?

Not Michael but I'll throw my 2€in anyway.

Lane I would use the Talon Tipped 250gr Socom bullet that Michael used in his last hunt. It ought to work very nicely on leopard.

Jim

*"Life's hard; it's harder if you're stupid"*  
John Wayne

Posts: 4954 | Location: Central Texas | Registered: 15 September 2007

capoward  
One of Us



posted 23 November 2013 20:30

[Hide Post](#)

Sam welcome back from a productive trip. I look forward to your hunt report. And yes it sucks getting old!

Jim

*"Life's hard; it's harder if you're stupid"*  
John Wayne

Posts: 4954 | Location: Central Texas | Registered: 15 September 2007

michael458  
One of Us



posted 23 November 2013 20:53

[Hide Post](#)

quote:

Originally posted by ledvm:  
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Will that bullet shear on a leopard?

First off Lane, before you leave, we will have loads for the 420 Raptor far beyond 2300 anyway, maybe I come up with a magic mixture by then... HEH.....

Will it shear? Yes, it will, without any issues at all.....

I would agree with Jim concerning the 250 Socom, however, since you are mainly after Elephant, and having both guns set up for that purpose, the 458 as backup with 450/420 same POI, then the 250 Socom would have to be resighted for that purpose. I assume this is the case.... And the 420 would serve well for this purpose.....

M

<http://www.b-mriflesandcartridges.com/default.html>

The New Word is "Non-Conventional", add "Conventional" to the Endangered Species List!  
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Posts: 8426 | Location: South Carolina | Registered: 23 June 2008

quote:

Originally posted by michael458:

quote:

Originally posted by ledvm:  
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M

Or you have two scopes in QD rings like I do. My Nikon 1-4 is setup for the 420gr Raptors / 450gr Solids. The other scope, currently a Zeiss 3-9, is setup for the SOCOMs.

Posts: 584 | Location: Phoenix, AZ | Registered: 13 August 2004



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