

This topic can be found at:

<https://forums accuratereloading.com/eve/forums/a/tpc/f/4711043/m/2861098911>

michael458

12 January 2011, 16:06

Terminal Bullet Performance

quote:

Originally posted by CCMDoc:
Didn't you two have this very same discussion about 100 pages ago?

I think we have been over some of this material before??? HEH HEH!

Glenn

Damn, you busted me--Top Secret, I am working on a bullet now, that will inject into the bloodstream of any large dangerous animal, once in the blood stream it goes straight to the heart and part of it shears off, exploding the heart, the remaining slug left continues on that last big pump of the heart directly to the brain in which yet another small device triggers the second part of the explosive charge inside the brain cavity, a double wummy bullet you might say, taking out the heart and then the brain as well! How did you know this? Well anyway, I am still experimenting with it and have yet to take it into the field. However it does look very good so far in the fact that it does everything anyone could desire, and does not exit at all, but yet is very deadly, WE THINK?



Nope, I am and always will be in the DEEP and STRAIGHT Penetration above all else camp.

Now speaking of penetration--I am far behind from where I wanted to be at this point this morning. I did manage to get a couple of boxes of medium ready, but I am short on witness cards, and I have not even got the test loads loaded as yet. Between REAL work, phone time, and other duties I was not able to get as far as I wanted. This morning, witness cards and loading. Hopefully by mid morning I can get started on the range with some much needed testing of NonCons. We are going to turn NonCons inside out this week and next. We are going to do all sorts of tests with them and see what we can learn. By the time we start taking them into the field, there should be no unanswered questions! So instead of me sitting here on my ass typing away, I am headed to the "Lab" to get prepared!

Michael

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Live Outside The Box of "Conventional Wisdom"

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fourbore

12 January 2011, 19:44

Ive been re-read some of this because I missed a lot, can someone point me to a page 1 - 119 if these is any data comparison of pure copper to brass/bronze alloy bullets?

My guy feeling is pure copper would work well. Pure metals often mush a bit but don't fracture easily as do many alloys. Easier on barrels too? Or no?

This is great stuff, to re-stated the obvious. I see the potential for an excellent magazine or online article, or a series. A summary of conclusions with data, or maybe three parts.

1. Bullet shape effects on penetration of solids.
2. Material and velocity effects on reliability of solids?
3. Design ideas for expanding bullets.

It getting to be a lot of digging. How about a link to a website with some spread sheets? Links could be added to the initial post 1 page 1.

capoward

12 January 2011, 22:18

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Page 98-100 has some very good information relating to this. Unfortunately I don't recollect which page has the T-Rex comparison between solids in brass and copper...but to the best of my recollection the nose of the copper deforms (flattens) while the nose of the brass bullet stays pretty much unscathed.



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

fourbore

12 January 2011, 22:41

Thanks. I may have seen that and forgot. Well, either way I read it again.

I would think that improving the bullets like this should allow use of less powerful cartridge for same gain that used-to require more power. Obvious right? Kinda anti AR big bore thinking, but it seems logical. Instead of moving up from a 375 to 458 we should get the same improvement with better bullet technology. I am think of elephant brain shots (and again I never hunted outside the North America) just talking. Who needs a 458 if the new bullet designs really increase penetration 100%.

capoward

12 January 2011, 23:34

quote:

Originally posted by fourbore:
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Fourbore,

I understand what you're asking as well as your premise...though I likely do not totally agree. I believe properly designed bullets do give the ability to use a "less powerful cartridge" - and my definition of this would be a cartridge of identical or similar caliber that utilizes less gun powder - vis-à-vis perhaps the more traditional perception of a less powerful cartridge being a cartridge having a smaller (or perhaps much smaller) caliber than the cartridge it is being compared to.

I'll utilize the 500gr .500 CEB BBW #13 FN Brass Solids - the current ultimate solid for this caliber - and compare powder capacities of Michael's .500 caliber MDM and B&M cartridges. Michael's 500 MDM utilizes a full-length RUM case of approximately 130grs H2O capacity while the 50 B&M utilizes a shortened RUM case of approximately 100grs H2O capacity. The 30grs extra case capacity of the 500 MDM does allow either a much higher velocity or much lower pressure scenario and there are advocates of each position...but the smaller capacity 50 B&M propels the 500gr solid at more than sufficient velocity to take any currently living DG animal on planet earth with more straight line penetration than a "570gr traditional African RN solid" fired from the 500 NE, a 505 Gibbs, or a 500 Jeffery. This would fit my scenario of utilizing a properly designed bullet from a "less powerful cartridge".

Now can this same scenario play out in the .375 caliber? Yes, I'm sure that it will. Sam has a .375 B&M and I'm sure that a properly designed .375 caliber CEB BBW #13 FN Solid (I think it's/it'll be 260gr) fired from Sam's rifle will easily exceed the straight line penetration from a "300gr traditional African RN solid" fired from the .375 H&H, the .375 Ruger, the .375 RUM, or any other larger capacity .375 caliber cartridges.

Not sure if this answers your question or not.

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

Dave Bush 12 January 2011, 23:48

quote:

Originally posted by michael458:

Nope, I am and always will be in the DEEP and STRAIGHT Penetration above all else camp.

Michael

Are we still talking about bullets? 🤖

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."
Homady Handbook of Cartridge Reloading (8th Edition).

fourbore 13 January 2011, 00:15

quote:

Now can this same scenario play out in the .375 caliber? Yes, I'm sure that it will. Sam has a .375 B&M and I'm sure that a properly designed .375 caliber CEB BBW #13 FN Solid (I think it's/it'll be 260gr) fired from Sam's rifle will easily exceed the straight line penetration from a "300gr traditional African RN solid" fired from the .375 H&H, the .375 Ruger, the .375 RUM, or any other larger capacity .375 caliber cartridges.

Capoward,

You are saying my good ol' 375H&H loaded too a traditional pressure level with a new technology bullet will not equal or exceed the penetration of the 458win mag, 458Lott or 470NE with old round nose solids?

someoldguy 13 January 2011, 01:55

quote:

Top Secret, I am working on a bullet now, that will inject into the bloodstream of any large dangerous animal, once in the blood stream it goes straight to the heart and part of it shears off, exploding the heart, the remaining slug left continues on that last big pump of the heart directly to the brain in which yet another small device triggers the second part of the explosive charge inside the brain cavity, a double wammy bullet you might say, taking out the heart and then the brain as well!



I hope I didn't inadvertently stumble onto some top secret government weapon project!



Glenn

michael458 13 January 2011, 02:04

quote:

Originally posted by Dave Bush:

quote:

Originally posted by michael458:

Nope, I am and always will be in the DEEP and STRAIGHT Penetration above all else camp.

Michael

Are we still talking about bullets? 🤖

Dave Bush!

Good to hear from you! Glad you are back, now hang around a bit!

Yes, talking about bullets--I think!

HEH

Michael

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michael458

13 January 2011, 02:15

fourbore

I may be off track, but I think you are saying with these bullets, lesser cartridges are enhanced in their capabilities. That is correct and I agree. For instance with these type bullets a smaller cartridge like my Super Short series is enhanced greatly, to the point that it puts them into an adequate category for larger game that they could not be considered for without these type bullets, NonCons, whether the brass #13 HPs, or the North Fork Expanding Cup Points--matched with the solids.

I think one would enhance other cartridges, such as 458 Winchester, and 458 B&M to capabilities of a 458 Lott or better. Of course the 458 Lott would be enhanced even a step above that with the same bullet design.

As for penetration, I think the 375 would be as good as the bigger bores, and equal, however I won't go in that direction. Regardless of anything, a 458 is bigger and will always hit harder than a 375 anything. Yes, a 375 would be enhanced greatly, but it would still not be a 458! At least that's my thoughts on the matter.

Speaking of 375 and 9.3--BBW #13 Solids and NonCons have been ordered. I think Sam told Dan a 300 gr BBW #13 in Solid, and the NonCon will be around 275. I ordered a 280 9.3 Solid, and 255 NonCon.

Also fourbore, I am sure that Capo is in line with a proper 375 #13 penetrating deeper than any round nose regardless of caliber. I don't think I have ever had a round nose solid make it to more than 30 inches before veering off course, and most go astray from 20-25 inches. Hell, the NonCons will out penetrate a RN solid!

Michael

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michael458

13 January 2011, 02:16

quote:

Originally posted by someoldguy:

quote:

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I hope I didn't inadvertently stumble onto some top secret government weapon project!



You must be careful Glenn! Watch what you step into!



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michael458

13 January 2011, 02:31

How about a BULLET REPORT?????????

OK, I am way behind my own schedule I set Monday. I have lot's of things I want to look at, in particular with the NonCons in .510 and the .458s and .457s. But I am just having a hard time catching up and getting to it as quickly as I wanted. I did manage to get a little done today however with the .510s.

The only .510 I have is that BIG HEAVY FAT RUGER M77 POS, that won't feed anything, but it does make an excellent test rifle for .510. OH, I am sorry, I forgot I do have a couple of 50 AKs at .510--but I don't count them, a little too slow.

This new CEB BBW #13 Nitro Express--only difference between that and the other is the space between bands at the top--so they work dandy in a bolt rifle as well, which is what I have in 510 Wells. But many of you will be using these bullets in 500 Nitro, so I dropped the charge down low, right at or around 2100 fps, with the 570 gr BBW #13 Solid and the 535 gr BBW #13 NonCon. This would give you guys a good idea of performance at this velocity.

The 570 #13 Solid did very well at this velocity, more than enough to do anything you need to do!



The NonCon Performed very good, as I suspected it would. I did put Witness Cards in every two inches, and not 1 inch. As it works out the blades are shearing right on 2 inches, and in this case penetrating up to 7 inches at this velocity. I find some that have hit the side of the box at that point, since they are moving away from center. Now if they shear at two and penetrate to 7, that's 5 inches of penetration with the blades alone. Now, FYI--I have tested 38 specials that WON'T penetrate 5 inches in this medium!!!!

The 535 CEB BBW #13 HP NonCon is a superb buffalo HAMMER! Penetration of the remaining slug, excellent!



A couple of other things that come to mind. When loading these, both 570 Solid and 535 NonCon are the same exact load, I used 95 grs of RL 15 in this load. Not much difference in velocity of the two bullets. At 25 yds, exact same POI. I plan on testing tomorrow the POI at 50 yds with these bullets, increased to 96 grs RL 15 and hope to be around 2150 or so.

When loading, these are the same exact bullet outside dimensions, once you set your seating plug, you don't change going from solid to HP or back and forth. Small point, but makes things a step easier.

I did test at higher velocity, but I am out of time, will post that in the morning for you. Chew this over for now.

Michael

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capoward

13 January 2011, 04:34

quote:

Originally posted by fourbore:

quote:

Now can this same scenario play out in the .375 caliber? Yes, I'm sure that it will. Sam has a .375 B&M and I'm sure that a properly designed .375 caliber CEB BBW #13 FN Solid (I think it's/it'll be 260gr) fired from Sam's rifle will easily exceed the straight line penetration from a "300gr traditional African RN solid" fired from the .375 H&H, the .375 Ruger, the .375 RUM, or any other larger capacity .375 caliber cartridges.

Capoward,

You are saying my good ol' 375H&H loaded too a traditional pressure level with a new technology bullet will not equal or exceed the penetration of the 458win mag, 458Lott or 470NE with old round nose solids?

Fourbore,

No, exactly the opposite.

Jim 

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

srose

13 January 2011, 04:36

Michael,

That .510 looks like it did great! I got the 2 boxes you sent me and I will load them up in the 500 Nitro to see how they regulate in my doubles. I'm sure from all the other CEBs I've shot they will do fine. Can't wait to hammer something with them.
Thanks for testing them!

Sam

Cross L

13 January 2011, 04:39


Michael and or Capoward,

To make sure I understand the hypothesis:

The New Model solids and non-cons make a slightly lighter cartridge such as a 416 B&M or 416 Taylor the equivalent to or better than a 416 Rem or Rigby using conventional C/C or Roundnose bullets. The use of the more effective bullets results in better penetration and tissue damage at lower velocities using smaller powder charges.

If I am stating this correctly this is as close as you can get to something for nothing-shooting smarter, not bigger and faster. Enough penetration is enough-at some point it doesn't pay to penetrate air. And all its costing the rest of us is a year or two of ya'lls time and effort.



Maybe there IS such a thing as a free lunch. 

thanks

SSR

michael458

13 January 2011, 05:18

quote:

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CrossL

Hey Buddy! Well, not so sure about the statement above, but I will tell you where I stand on that. If I have a choice (and I do), I will choose a 416 B&M with a 325 CEB BBW #13 HP NonCon, and matching 350 #13 Solid over anything common a 416 Rem or Rigby can dish out. With Common Bullets available.

NonCons and this nose profile solid likes velocity, obviously then a 416 Rem or Rigby will drive the SAME #13s at higher velocity--and a higher level of performance as well.

It is my belief that these bullets, along with some choice others, such as the North Fork EXPANDING CUP POINT--will enhance ANY cartridge above where it currently stands.

Shooting Smart? I believe this to be true. If we take a hard look and study nothing but the reactions of the two buffalo that Doug shot in November with the 330 gr SSK/Lehigh Brass NonCons then we begin to understand. Now, before this sort of bullet I doubt many of us would consider using a 325 or 330 gr bullet on buffalo! I would have made, and did, a 350 gr 416 dead minimum across the board. Yes, there is a couple of common bullets I might would have given a go if that is what I had at the moment, but to purposely head out the door with a load in 416 for buffalo, 350 would have been it. Now, not so, and in fact I would choose the 325 #13 HP NonCon over anything available for that first round, backed by it's matching 350 #13 Solid!

The 325 #13 NonCon is a better design than the 330 SSK/Lehigh. Both are incredible, and transfer tremendous trauma, both shear exactly the same, however the 330 Lehigh loses stability at or around 20 inches of penetration, the #13 keeps driving straight until I think it was 28-30 inches when I tested a few weeks ago, I was surprised. I would use either bullet, and still have a few hundred of the Lehighs left, they are fine, but the #13 is a bit better in my opinion!

You know I am a pure dumbass at times! Had I been really smart, and selfish also, I would have kept this info TOP SECRET. Would have loaded these bullets in all the B&M Cartridges for the B&M Rifles! The B&Ms would have become the greatest stoppers ever invented by man, and many would have never suspected what was really doing the job! Just what I always tell you guys----IT'S ALL ABOUT THE BULLET when it comes down to it, not the cartridge, not the rifle--The Bullet!

Michael

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michael458

13 January 2011, 05:26

quote:

Originally posted by srose:
Michael,

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Thanks for testing them!

Sam

Sam

Yep, the .510s do look great, very pleased with them. Well so far the design has carried over to every caliber we have worked with and it continues. I think we got it down right! I have to admit, that I am surprised that in all your doubles, in 465HH double, and the others that have tried, they all regulate with the loads they have been using. So Far. Now, there are some other bullets going out this week, some to double guys, so if we can get some feed back from them that will be good as well.

Look here, I may need to load some 500 Nitro and 470 Nitro soon, Should I just get some dies, and can I load that on the Dillons without issue? I am not sure I have a shell plate or not for those?
?????????

One of my guys in Zim wants to try them in his 500 Nitro this year for his hunting. Marty, one of the owners of HHK will be making a plan to visit with us at some point soon and getting his 470 Nitro ready to hunt with the #13s this year also. I might need your assistance in these matters!

M



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michael458

13 January 2011, 05:29

quote:

Originally posted by srose:
Michael,
I got the 2 boxes you sent me
Sam

I only sent you two boxes? Hell I shot two boxes of them today!

Kinda tight with those bullets eh?



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jeffeosso

13 January 2011, 05:35

hell mm.. i tried to call just now..

SAm

i am going to need some bullets ... just one boxxxxxx each to get started

.423 - like 325 gr

.475 - like 425gr

.510 - like 535 gr ...

.550 - like 550/600gr

that's going to hurt my wallet!

...more than golf,even

#dumptrump

opinions vary band of bubbas and STC hunting Club

Information on **Ammoguide** about

the [416AR](#), [458AR](#), [470AR](#), [500AR](#)

What is an AR round? Case Drawings [416-458-470AR](#) and [500AR](#).

[476AR](#),

<http://www.weaponsmith.com>

capoward



13 January 2011, 06:33

quote:

Originally posted by Cross L:
Michael and or Capoward,

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thanks

SSR

Cross L...I hope I've not mislead you and fourbore with my earlier comments. Perhaps this will help clarify.

First off...use a properly designed FN solid...in this scenario we'll use the CEB BBW #13 FN Brass Solid as the properly designed FN solid...and regardless of the cartridge case used, this FN solid will out penetrate, in a straight line penetration, any traditional African DG RN solid bullets utilizing the same cartridge case. The only possible exceptions to this statement are BikeRider's little 156gr 6.5mm FMJ solids and the 320gr 9.3mm Woodleigh FMJ solids - both of which penetrate fully in a straight line.

Now load identical CEB BBW #13 FN Brass Solid bullets in a .375 B&M and .375 RUM, max out their velocity, and the RUM fired bullet will out penetrate the B&M fired bullet. Move to the .416 caliber and the load identical CEB BBW #13 FN Brass Solid bullet in the .416 B&M and the .416 Rigby, max out their velocity, and the Rigby fired bullet will out penetrate the B&M fired bullet. Select any caliber and perform the same test and the bullet fired from the greater capacity cartridge will out penetrate the identical CEB BBW #13 FN Brass solid fired from the lesser capacity cartridge when both cartridges are fired at their maximum velocities. However fire both cartridges at identical velocities and the bullets will penetrate the exact same depth in a full straight line.

Now for the NonCons...re-look at the bullet results contained on page 113 through perhaps page 114...particularly at the results of the 325gr .458 North Fork CPS bullet and the 395gr .500 CEB BBW #13 HP Copper fired from the two B&M Super Short cartridges - compared to the conventional premium expanding bullet results fired from much larger capacity cartridges. Once again it is the high quality performance obtained from properly designed NonCon bullets vis-à-vis the bullet performance obtained by "traditional African DG expanding bullets that makes the difference.

Edit added: I hope this post is a little clearer. After two days of clear traveling from Southern California through Arizona, New Mexico, and Texas we arrived at the I-30 parking lot in Southwestern Arkansas. It took one hour to go two miles and most of the time we were sitting still! Dang, if it weren't for the trees and snow I'd have sworn I was on a SoCal parking lot (any freeway during peak traffic hours)!! Our very early afternoon arrival turned into a rather late well after dark arrival...and the brain still hasn't completely cleaned out from the shear boredom of it all. If it's still unclear, I do apologize.

Jim 

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

John Wayne

Cross L

13 January 2011, 07:24

I think we are in agreement. What I was trying to say is that the new bullet designs make the smaller capacity cartridges the equal-in effectiveness-to the larger rounds IN THEIR TRADITIONAL LOADINGS.

More cubic=more horsepower so you can of course run the new designs faster also--its just not needed.

Am I closer?

SSR

srose

13 January 2011, 07:26

Michael,

I have both 470 and 500 nitro dies if you want to borrow them. Not sure how the Dillon will work but if it is tall enough should do fine. If you wouldn't have taken that 12 lb hammer to your Partner press you could have used it. I can loan you a press also if you don't have that hammer laying around.


Jeffeosso,

You'll need to get up with Dan at CEB to get those bullets. The 474 and 510s should not be a problem. The others you need to ask Dan about.

Sam

416Tanzan

13 January 2011, 11:41

This is fun with testing and more pictures. Some of us are truly enjoying the ride even if sitting on the side and drinking coffee with Jim  Wish we could be shooting, of course.

Some of us still go out the door not knowing if we will need to shoot an impala or eland at 300-350 yards or a buffalo at 75. Monolithic bullets let us load up to velocity for the long shots and still have a bullet remaining up close. So I am loading the 416 Rigby at 2800 fps with 350 grain bullets at the moment. That should produce performance and get an animal's attention, IF the bullet 'is true like ice like fire'.

And as work progresses down from the necessary and lauded .500s to .458, at .416 the idea of a 'light', shoulder-carried rifle, with an all-around, long range bullet will have its turn.

When we find a tipped, high-BC projectile that explodes its lanky petals leaving a flatnose to penetrate to 28".

Followed up by a solid, bien sûr.

And then testing to see how far the petals go through the upper shoulder-leg mass of a buffalo. Will they stab the heart-lungs or only cripple and mangle one leg, leaving the stub to work its wonders?

We'll find out all in due season.

And sipping Java ☕, it's breakfast time.

+ + + + +

"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.

michael458

13 January 2011, 15:31

CrossL

quote:

I think we are in agreement. What I was trying to say is that the new bullet designs make the smaller capacity cartridges the equal-in effectiveness-to the larger rounds IN THEIR TRADITIONAL LOADINGS.

Absolutely, I concur with that, and in most cases a step beyond---More Effective, not just equal!

Sam

When I need to do something in 500 Nitro and 470, we will make a plan. That 12 lb hammer was not a good idea on that press, eh? They normally take away all sharp objects from me, maybe they should confiscate the hammers, bastard files, and vise grips too? I can do a lot of damage with those implements as well!

Tanzan and Capo

Still thinking, working on, pondering the higher BC NonCon. Have two choices right now as I see it. Either make a profile similar to the one Sam did. It shears, but shears and remains within the wound channel. And, nothing wrong with that either, just a different mode of operation, still lot's of trauma inflicted, but not shearing away from center. Second, a plastic tip, perhaps in a standard #13 NonCon? Then shearing will be away from center, but must watch velocity at longer ranges as well. I don't think velocity will be a great issue, as the brass NonCons will shear down to 1200 fps impacts, or slightly less, but 1200 fps as a rule of thumb.

I am going to be looking at shearing, blades/petals, going thru some more "resistant" materials over the next couple of weeks to see what happens.

Michael

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

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someoldguy

13 January 2011, 16:14

quote:

How about a BULLET REPORT?????????

With me, that's about like asking a 6 year old if he wants an ice cream cone. 🍦

Of course, this being 2011, it might also be like asking a 6 year old if he'd like a hit off your joint. 🤔

I'm wondering if the .510 Wells mightn't go slightly deeper with a little faster twist rate. Or do I need to lay off the oregano? 😊

Glenn

buffalo

13 January 2011, 16:39

quote:

Originally posted by michael458:

I did test at higher velocity, but I am out of time, will post that in the morning for you. Chew this over for now.

Michael

Finished chewing..

post it now - post it now - post it now 🍷

michael458

13 January 2011, 17:32

In the 510 Wells I upped the charge from 95/RL 15 to 106/RL 15....This gave a velocity boost of 232 fps with the 570 CEB BBW#13 Solid, and 256 fps with the 535 NonCon. With the 535 NonCon that gave us roughly around 10% more penetration with the bullet. It gave us about an inch more with some of the blades. Some blades went just past the 8 inch witness card with the higher velocity NonCon, and at low velocity none made it to the 8 inch witness card. A fairly substantial gain in penetration with the 570 #13 Solid, around 15% more penetration.

Regardless of gain, even at low velocity the penetration is fantastic and more than enough with both NonCon and Solid. This just points out--Once Again--That these noncons like velocity, as well as this nose profile solid. North Forks like velocity as well, but operate very fine at lower velocities too. It's the nature of proper designed bullets I IMO.



I have a good bit of work to do in the coming days, just trying to get to it all is the issue right now. I have planned some POI tests with the 535 NonCon and 570 Solid at 50 yds. I also want to do some terminals with the new 480 .457 Solid and 450 .457 NonCon, then some 50 yd POI tests with these as opposed to the 450 Solid and 420 NonCon in .458. An interesting POI test will be the 450 Solid and 450 NonCon. With the 450 NonCon being slightly longer than the solid. Same time I will want to do some pressure traces with the 480s and 450 NonCons in the 458 B&M. Then, we will take these same bullets to the 458 Lott for POI and Terminals, and see if we can push them a bit!

I want to stress the NonCons a bit as well. While a T'Rex is a bit too much stress on a NonCon, to expect petals/blades to pass that I do not. The remaining bullet will. I will do a T'Rex on the NonCons. What I think is a better test on the NonCons is to take 2 inches of test medium, and then some either 1 inch boards or even some 2X4 boards behind that and see what happens with the blades. The bullet will pass thru these, I have zero issues there, what I want to learn is what happens to the blades. While this can't simulate a buffalo or other animal, it can give us some more in depth information on how they might react in some circumstances.

This is the initial layout of work to come, I am sure while doing some of these we might come up with some new ideas to work on as well. Not sure how much I will get done the next couple of days, and I am going to have to make a run to get more test medium very soon, almost at the bottom of the pile now!

Michael

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capoward

13 January 2011, 21:03

quote:

Originally posted by Cross L:
I think we are in agreement. **What I was trying to say is that the new bullet designs make the smaller capacity cartridges the equal-in effectiveness-to the larger rounds IN THEIR TRADITIONAL LOADINGS.**

More cubic=more horsepower so you can of course run the new designs faster also—it's just not needed.

Am I closer?

SSR

Very cogent, very succinct! Yes we are definitely in agreement.



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

capoward

13 January 2011, 21:36

quote:

I want to stress the NonCons a bit as well. While a T'Rex is a bit too much stress on a NonCon, to expect petals/blades to pass that I do not. The remaining bullet will. I will do a T'Rex on the NonCons. What I think is a better test on the NonCons is to take 2 inches of test medium, and then some either 1 inch boards or even some 2X4 boards behind that and see what happens with the blades. The bullet will pass thru these, I have zero issues there, what I want to learn is what happens to the blades. While this can't simulate a buffalo or other animal, it can give us some more in depth information on how they might react in some circumstances.

Michael

Michael,

It may be very enlightening to put a CEB BBW #13 HP Brass Solid through the full T'Rex mix. I agree the petals will likely be not much more than surface damage but we may be surprised. I also agree that the remaining shank should likely penetrate very well in the mix. It would be very interesting to see whether it penetrates both sets of 2x4s and what the total penetration of the shank would be. I think this would be the perfect test for the 50 B&M loaded with a 460gr .500 CEB BBW #13 HP Brass Solid.

quote:

Tanzan and Capo

Still thinking, working on, pondering the higher BC NonCon. Have two choices right now as I see it. Either make a profile similar to the one Sam did. It shears, but shears and remains within the wound channel. And, nothing wrong with that either, just a different mode of operation, still lot's of trauma inflicted, but not shearing away from center. Second, a plastic tip, perhaps in a standard #13 NonCon? Then shearing will be away from center, but must watch velocity at longer ranges as well. I don't think velocity will be a great issue, as the brass NonCons will shear down to 1200 fps impacts, or slightly less, but 1200 fps as a rule of thumb.

I am going to be looking at shearing, blades/petals, going thru some more "resistant" materials over the next couple of weeks to see what happens.

Michael

Michael,

I've been thinking about this myself after our email discussion and have almost reached the conclusion that the only way we're going to know is to do a sample run of each and put them to the test. Except in this case I think we potentially have three options. 1st Option is Sam's profile/construction which may not be a bad scenario even with the sheared petals tracking the shank rather than the star burst model. 2nd Option would be Dan's recommendation of slightly reshaping the CEB BBW #13 HP nose to be more aerodynamic and inserting a plastic tip. And, 3rd Option being the one we partially discussed of simply inserting a plastic tip in a CEB BBW #13 HP nose and testing it to determine how much ballistic efficiency it pickup up at 325yds. The CEB BBW #13 HP nose shearing at 1200fps certainly lends credence to Option 2 or 3 but we also had so few of Sam's Spitzer bullets to test that we don't know what the minimum velocity/petal shear point is.

If it sounds reasonable, how about having Dan do a sample run of each Option in .500 caliber. You keep at least one box of each Option to run the box tests and send me at least 2 boxes of each Option. I'll work with a local outdoor range so that I can perform the distance tests at 300-325yds. Between the two test scenarios we should be able to determine the best Option for those of us who desire Big Bore Spitzer bullets, in calibers not covered by the TSX/TTSX bullet line, for those long range/short range encounters.

My 50 MDM has been slightly delayed to some outside vendor parts not shipping but I should have it in hand sometime in late February to early March. We should be in the lull of the coastal or desert breezes by then which should make the distance testing slightly easier.



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

ptaylor

14 January 2011, 00:24

what about placing a smaller projectile within the hollow point much like "Lehigh Bullets" did with their subsonic stuff? <http://lehighbullets.com/products.asp?cat=26>

michael458

14 January 2011, 02:04

quote:

Originally posted by ptaylor:
what about placing a smaller projectile within the hollow point much like "Lehigh Bullets" did with their subsonic stuff? <http://lehighbullets.com/products.asp?cat=26>

Ptaylor

One could do that. I have been sent samples of those. I really don't care for that too much.

Sam has been talking to Dan about putting a plastic tip in the end of a #13 HP, I think that would get you there, or very close to it! I think it would probably look pretty spiffy too! I think a big BLACK tip in the end of a #13 would look a little wicked as well!

Michael

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boom stick

14 January 2011, 03:14

A tip in the 416 non con would be interesting for over 200 yard shots on PG. Also would make sure the petals sheer at lower velocities.

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)

michael458

14 January 2011, 03:24

Boomy

Yes, I think so as well. I just sent an email to Dan and requested he go ahead and make a sample run of 425-435 gr .500 caliber bullets with the plastic tip in the end. He says he has been working with that on some other bullets and has a pretty good method worked out. Now, putting that in the end of one of the BBW #13 NonCons I think will serve our needs in that arena very well, on many fronts.

I also requested the exact same deal to test on the 325 416 #13 NonCon for the B&M, although it will most likely make it long for that cartridge, but we can give a 416 a go as well.

Good to see you back, we have missed you!

Michael

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

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boom stick

14 January 2011, 04:28

Thanks
Might have to design the high BC non con to work in the nominal .8" tip to crimp.
Maybe add another crimp option towards the nose and take one off the back to accommodate this.
I think this could be a great 458 bullet that without the tip could be used in the 45-70 lever actions and with the tip for the 458 SS Think of the 330 barnes banded for the 458 SOCOM but a hex hole and tip for more range and insured petal sheer at lower velocity. Maybe a 300 grain tipped hex @ 2500 to pop some good holes in things that need it and have a left over solid weighing about 250 grains.
I guess if all goes well then a scaled up .500 version for the 50 SS too.

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)

capoward

14 January 2011, 10:06

quote:

Originally posted by michael458:
... I just sent an email to Dan and requested he go ahead and make a sample run of 425-435 gr .500 caliber bullets with the plastic tip in the end. He says he has been working with that on some other bullets and has a pretty good method worked out. Now, putting that in the end of one of the BBW #13 NonCons I think will serve our needs in that arena very well, on many fronts.
...
Michael

That should work out very well.

If you do use a production .500 caliber CEB BBW #13 HP NonCon with the plastic tip insert, I would suggest that your 2nd generation brass Lion bullet would perhaps be the perfect bullet to use.

Regardless...make it a big BLACK tip!! 😊

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

416Tanzan

14 January 2011, 10:56

quote:

Regardless...make it a big BLACK tip!! tu2

OK, you can have black for 500s. I'd like blue for the 416. Maybe Michael has a favorite color for the 458? Gold, red, purple?

I suppose it is important to shoot well-dressed, pretty bullets. Gives one confidence in the outcome.

+ + + + +

"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

15 January 2011, 00:54

Doc M,
I got the .458 CEB bullets, thanks.
Will load and shoot in the .458 B&M.
I have to wait for temps above freezing outdoors to chronograph.
I am gone to look for your black lab coat ...

Jack D Bold

15 January 2011, 01:15

Mike was kind enough to send me the copper solids and noncons for a .470NE. Cannot wait to try them.

Does anybody have load data to share?

"You only gotta do one thing well to make it in this world" - J Joplin

someoldguy

15 January 2011, 02:01

And now for what I seem to do best here: armchair analysis! 😊

I don't know how interested others might be in these predictions of mine, but I decided to post them anyway. Last year I came up with a little algorithm which attempted to predict penetration in Michael's test medium. I had touched on it last year but I shelved it because I thought it was too simple and it involves a range instead of a specific value.

However, I usually believe very strongly that simple is good, just as long as it halfway works! 😊 So I revisited my algorithm, which I had previously programmed into my desktop QBasic, and came up with the following predictions. These were copied and pasted directly from my program.

First, the two flatnosed bullets:

(I had to estimate meplat diameter as being 69 percent of bullet diameter.)

quote:

```
Cartridge name: ? .510 Wells / 570 CEB BBW#13 Solid
Bullet diameter: ? .509
Flat nose? ? y Meplat diameter or meplat percent? 69
Bullet Weight: ? 570
Impact Velocity: ? 2030

Predicted penetration in Michael's medium:
56 to 67 ins. 74 max.
```

Actual penetration: 56 ins.

Next:

quote:

```
Cartridge name: ? .510 Wells / 570 CEB BBW#13 Solid
Bullet diameter: ? .509
Flat nose? ? y Meplat diameter or meplat percent? 69
Bullet Weight: ? 570
Impact Velocity: ? 2304

Predicted penetration in Michael's medium:
63 to 76 ins. 84 max.
```

Actual penetration: 66 ins.

So I tried the two NonCons next. The assumption was that the bullet kept a cylindrical shape.

quote:

```
Cartridge name: ? .510 Wells / 535 CEB BBW#13 HP NonCon
Bullet diameter: ? .509
Flat nose? ?
Bullet Weight: ? 535
Impact Velocity: ? 2072

Predicted penetration in Michael's medium:
25 to 31 ins. 34 max.
```

Actual penetration: 27 ins.

quote:

```
Cartridge name: ? .510 Wells / 535 CEB BBW#13 HP NonCon
Bullet diameter: ? .509
Flat nose? ?
Bullet Weight: ? 535
Impact Velocity: ? 2333

Predicted penetration in Michael's medium:
29 to 34 ins. 38 max.
```

Actual penetration: 29 ins.

The basis for these predictions is what's called the momentum density. This concept is also mentioned on this page:

<http://www.grosswildjagd.de/momentum.htm>

Stated another way, momentum density is the sectional density times the velocity. However, I've found the classic SD formula won't do for flat-nosed bullets. You have to use the meplat diameter. The classic SD formula for the .510 Wells with a 570 grain bullet is $570/7000/0.509/0.509$, or 0.314. However, assuming that the meplat is 0.35 inch, you'll use $570/7000/0.35/0.35$, or 0.664. This is what I call the effective sectional density. For the next step, you multiply by the impact velocity. This is the momentum density for your bullet.

To obtain a range of values, divide the momentum density by the constant 24 for a minimum value and 20 for the average value. 18 is the constant for the maximum value.

Note: This only works halfway well when the meplat is no less than about 65 percent of caliber.

For the NonCon bullets, I found that using the classic SD gives halfway decent results.

Don't know what value any of this might be to the rest of you, but I thought it was interesting. I'm sure I don't have to mention that projectile penetration is a dynamic event which doesn't easily lend itself to precise predictions!

Glenn

ALF

15 January 2011, 02:17