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Terminal Bullet Performance

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michael458

One of Us



posted 06 September 2010 03:35

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Peter

I will inquire about the hollow base and getting CEB to do some for us with the #13s for further study. I am baffled also about this, but we can get to the bottom of it. I think terminals has a lot more to do with length and tangible size of bullet than just weight alone. As we know for a fact, nose profile, meplat size, twist rates, velocity and construction ALL trump SD, now we have another factor that is more important than SD. A bit of a surprise to me, but yet another factor, it would seem. Further tests will confirm it I am sure now. But further study is required. SD seems to be of less and less importance in the matter of solid terminal penetration eh? We need a new formula it would seem, one that would put less emphasis on weight, more on other factors.

Have a beer, it will solve the headache, if it don't, have 3 or 4 and forget the headache! HEH..

Michael

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

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



capoward

One of Us



posted 06 September 2010 05:50

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quote:

I can't imagine you getting clobbered for stating the new 450 FPS for the 50 B&M would work on Elephant. Damn right it will.

LOL...I did forget that I was speaking to the FN Society rather than the RN Crowd.

Yep the Hollow Base Factor is certainly interesting and very likely properly located as Number 6 and way ahead of Sectional Density which has fallen to number 7. So our listing is as follows:

The big 6 Factors of Solid Bullet Performance:

1. Nose Profile
2. % of Meplat
3. Twist Rate
4. Velocity
5. Construction
6. "Hollow Base Factor" (Physical Size / Dart Effect / Vortex Effect / Rotating Surface)

And finally,

7. And finally Sectional Density!

Almost makes one wonder if the Hollow Base dimensions; i.e., % of bullet diameter and % of bullet length, will become as important as the Nose Profile and % of Meplat combination to a straight-line deep-driving solid?

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 06 September 2010 16:05

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Guys, it dawned on me this morning that the Hollow Base issue is really NOT a factor in how a bullet penetrates, it is merely another "Bullet Design" as I see it.

Really it is my fault it got stuck under a factor, as I am the one who made it a factor, but I would think of it more as just another design, more so than a factor involving penetration, much like a non expanding cup point, or such.

All the things we are talking about concerning this bullet are factors as to how it works of course, but I think we must take it out of the "Factor" category myself, and put it back in as another bullet design, that happens to work pretty good, so far.

Just my thoughts on the matter.

M

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



RIP

one of us

posted 06 September 2010 21:52

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No BS.

The hollow base merely gets the center of gravity of the bullet moved forward, ahead of the center of form.

This makes it more stable.

Like a spear with a heavy head and a lighter trailing shaft.

Dart stability.

It will add stability for straight flight through air or penetration in a dense medium.

That's it. No "vortex effect."

What are the negatives to a hollow base?

What are the negatives to a boat tail?

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



michael458
One of Us



posted 06 September 2010 21:57

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quote:

Originally posted by RIP:
No BS.
The hollow base merely gets the center of gravity of the bullet moved forward, ahead of the center of form.
This makes it more stable.
Like a spear with a heavy head and a lighter trailing shaft.
Dart stability.
It will add stability for straight flight through air or penetration in a dense medium.
That's it. No "vortex effect."

RIP

This makes good sense to me, and I can buy into this, Dart/Arrow/Spear stability. However, I would classify it as a "Design" and not a "factor", concur?
All other factors would have to come into play I would think also. One might get by, with a little less in some factors because of design, maybe?

M

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



RIP
one of us

posted 06 September 2010 22:09

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But all the "factors" are "design factors" ... it is just semantics.
It's just hard to rank all the "bullet design factors" by importance of their effects on penetration.
If you start machining hollows in the bottoms of bullets, that adds a potential concentricity problem.
Pressure effects from better obturation when the gas blows up the bullet skirt ...
Must be some reasons for getting away from the old Minnie balls, eh?

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



michael458
One of Us



posted 06 September 2010 22:32

[Hide Post](#)

Well for my pea brain I think I will for my purposes call the HB a bullet design, not a factor of penetration, for my purposes anyway, and hang with the 5-6 factors we have identified for sure.
Yes, you can add a lot of issues with the HB, concentricity one of the big ones. Obturation yes, pressures yes.
In the context of which Peter was wanting to use them in his 12 bore it may be just dandy for him, as a recoil reduction bullet, lighter weight. Now without increasing velocity, this can be achieved I would think.

Now if one believes that because of the lighter weight of the HB that one might increase velocity, there is where one might run into issues. Remember, we are still running the exact same bearing surface, that has not decreased at all! This has to be running close to the same pressures as the normal bullet without the HB because of bearing surface. Maybe slightly less, but now much less. One would have to hook up the strain gages on that to tell for sure. Today, I am not in that much of a mood to start hooking up gages and wires and computers to the rifles. That's a damn chore!

M

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



michael458
One of Us



posted 06 September 2010 22:40

[Hide Post](#)

Ok, I want to dive into something that has been bugging me about the 416s, all of them, but in particular my own 416 B&M. It really never even occurred to me until we started testing some 400 and 410 gr solids a long time ago on this thread. All the 416 B&Ms are 1:14 twist rates, and it would seem at the velocity I can run 400 gr solids from 2250-2350 fps I have a stability issue with the 416 B&M and it's 1:14 twist rates.

I tested some time ago the 400 Barnes Banded in the 416 B&M at lower velocity, it was just not stable at all. As you can see.



The Barnes runs about a 65% meplat. Running that velocity way up in the 416 Remington, almost 2500 fps, this extra velocity helps stabilize the 400s, as I understand the Winchester barrels in 416 Remington are still 1:14 Twist Rates. While this extra velocity did in fact stabilize the bullet by a great deal, it still veered off course about an inch at 60 inches in the 416 Remington.



An inch off course is not much of a big deal in this medium, in the field you would never see this. But, my 416 B&M cannot run 400s to this velocity.

So I am remembering Mike and his 470 tests, the 70% meplat of the North Fork FPS negating the slow twist rate of Mikes 470 Nitro of 1:18. Meplat size and nose profile overcome the slow twist rate for repeated straight line penetration. Maybe a 70% meplat in 416 would help negate 1:14???

Well a 70% Meplat in .474 caliber comes to a real life .332 inches or so. I also remember my own 470 Capsticks and the Barnes Banded self stabilizing itself even with no engraving? At 65% meplat or .308 inches actual.

Problem is this, in 416 caliber even a 70% meplat is only .291 and 65% is only .270 actual! Might not be enough "Actual" flat surface to stabilize and overcome twist rate?

458 can overcome twist rates with a 70% meplat and a 65% meplat at 1:14. Everything from 500 grs down is stable in the 458 B&M with 1:14, but that is .458 caliber?

Well I decided to try some 400 gr North Fork FPS and 70% meplats! Maybe they could stabilize in the 1:14 at the velocity the 416 B&M can run???

I hopped up the velocity in the 416 B&M to 2350 fps and ran 5 thru the test medium this morning.

Here are those results.



As you can see we still have not found 100% reliable stability with the 400 gr bullets in 1:14 twist rates that my 416s come in. Close, very close, but not quite there.

We have been talking about factors, well in 416 caliber a 1:12 twist rate would be much better, probably really needs to be 1:10 for terminal penetration of 400 gr bullets! This pans out to be true on some more tests coming up!

Since I don't have 1:12 or 1:10 twist barrels, and I bet most of you do not, then we drop the weight down to 350-370 grs and things start to fall in line again. Those of you with 416 Rems and Rigbys can use velocity to assist in terminal stabilization too. Honestly however if it were me, I would drop the weight to 350-370 in 416 caliber even with the Rigby and 416 Remington. Of course I am nit-picky and even obsessive on these things too, I have doubts that even 2 inches off course in 60 inches in this test mix would ever be a factor in the field. Remember, this is test medium, and it is much more difficult on a bullet for terminal stability than animal tissue is! While it might be an inch or two off in the test medium, I doubt that it would be off at all in animal tissue. But, I obsess about things, so I would still drop to 350-370 gr for terminal stability!

Michael

<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 06 September 2010 22:44

[Hide Post](#)

Oh and do remember, this is not actually a test of North Forks 400 gr bullet, this is a test of my 416 B&M and it's 1:14 twist rate at it's velocity, to see if it would stabilize these 400s!

M

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

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



jwp475

One of Us



posted 06 September 2010 22:45

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Micheal, take a 400 grain 416 Barnes and machine a 75% meplat and test that in the 416 B&M

A 9mm may expand to a larger diameter, but a 45 ain't going to shrink

Men occasionally stumble over the truth, but most of them pick themselves up and hurry off as if nothing had happened.
- Winston Churchill

Posts: **5077** | Location: **USA** | Registered: **11 March 2005**



capoward

One of Us



posted 06 September 2010 22:58

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quote:

Originally posted by michael458:

Guys, it dawned on me this morning that the Hollow Base issue is really NOT a factor in how a bullet penetrates, it is merely another "Bullet Design" as I see it.

Really it is my fault it got stuck under a factor, as I am the one who made it a factor, but I would think of it more as just another design, more so than a factor involving penetration, much like a non expanding cup point, or such.

All the things we are talking about concerning this bullet are factors as to how it works of course, but I think we must take it out of the "Factor" category myself, and put it back in as another bullet design, that happens to work pretty good, so far.
Just my thoughts on the matter.

M

Michael,

At this point I'm inclined to leave the HB (hollow base) element as a factor within the design criteria of FN bullet design...no different than specifying a FB (flat base) or BT (boat tail) base in the primary bullet construction.

Yes we know that HB has been a design element for more than a century with lead bullets of all nose shapes...though primarily for bore sealing purposes rather than a potential performance factor in the primary bullet design.

To date, other than GSC and S&H with their BT design bullets, modern DG bullets have been principally designed with a radiused edge FB. Why, ok I'll bit the bullet so to say, because within 300yds there is no demonstrated benefit to the BT design over the FB...and what the heck no one uses their DG rifle to shoot over 300yds anyway...

Who knows, perhaps Sam's HB performance factor may principally impact bullet performance at close DG ranges vis-à-vis FB or BT performance factors. We do not know this yet just as we do not know whether HB element will transcend to modern expanding bullet design as a functional performance factor or whether it solely relates to modern FN bullet design...but I believe this needs to be verified before the HB factor is moved to its own category separate from the solid/expanding bullet performance factors.

Anyway, that my 2¢.

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 06 September 2010 23:01

[Hide Post](#)

quote:

Originally posted by jwp475:

Micheal, take a 400 grain 416 Barnes and machine a 75% meplat and test that in the 416 B&M

JWP

Yes, I am pretty sure that 75% would sort the problem out with the 400s in 1:14. If we look at all our factors it would go something like this;

75% meplat would most likely solve the stability issue with 400s in 1:14 in 416

Velocity can solve the problem as well, as we see above.

Of course, faster twist rate would also solve it. 1;12 maybe, 1:10 for sure.

Less SD would solve the stability issue, drop to 370-350 gr bullets.

That is 4 of our Main 6 Factors that could solve the problem with a 1:14 twist rate! Nose Profile and Construction is not an issue with this.

Now, each has to look at ones own situation, as I am looking at mine. For me, the most simple thing for me to do is to drop the bullet weight to 350-370 grs and my issues are solved.

M

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



michael458

One of Us



posted 06 September 2010 23:35

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Jim/RIP

OK, because it is a hollow base, does not effect penetration or stability as does the "factors". If we change Nose Profile, the results will be the same, hollow or not hollow. If we change meplat size, results are the same, HB or not HB. Twist rate??? Don't know, maybe? Maybe Not? As weight has changed, but not bearing surface. Velocity up or down, HB or not, the same. Construction not an issue, SD out the window. So is it a factor or just a base design?

Because Sam gave a 430 gr bullet a hollow base did not effect it's stability or penetration? Did not make it penetrate less or more, it was not a "factor". It was and is extraordinary that it does in fact penetrate the same as the 430, but not a factor in it's penetration. The increase in penetration of Saturdays test was a result of higher velocity, a factor.

It might be a factor in other areas, but I don't see it as a factor in terminals.

Yes or no, really does not matter I suppose, and certainly not worthy of any sort of argument, which of course this is not anyway. I may just be looking at things differently is all. Right, wrong, in between, don't matter, still one hell of a thing and really does throw SD to the trash once and for all! SD is really outlived it's usefulness as a unit of measure.

M

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michael458
One of Us



posted 06 September 2010 23:56

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Jim

How about these for your Long Range needs in .500



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Some more #13s from BBW, these for his very own 500 Nitro! .510 caliber!




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

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tc458
new member

 posted 07 September 2010 01:08

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Michael,

Greetings and salutations, Oh Great Ballistician. I don't mean to interrupt the flow of your thread, but I wanted to let you know that you talked me into it--I'm now a new member of accuratereloading.com. The information on this site is fantastic and your ballistic research and penetration data is invaluable! I'm also glad I took your advice and bought the Winchester Model 70 in 458 Lott which I'll be using on my first elephant hunt next summer.

Please allow me to gush a little bit. I thought my 375 Ackley Improved with 300 grain bullets was the end all. I was wrong. The 458 Lott, my first true "big bore," is without a doubt the coolest gun I have ever owned. It's heavy, it's tough, it kicks, it looks African, it feels African...and I want more. Built in 2004 by the Winchester Custom Shop in New Haven, it's got a 1:11 twist 24" Krieger match barrel, dual lugs, barrel band, NECG 3 leaf rear sight with adjustable front sight, custom English walnut stock with a shadowline cheekpiece and ebony forend tip and ebony pistol grip, two cross bolts, Williams/Oberndorf style 4 round magazine, hand-honed action, claw extractor, an unknurled bolt handle, and I put a detachable Swarovski Z6 1-6EE illuminated on it. Best of all—it feeds great and shoots great.

I was looking for a 500 grain flat nose solid to use and your data has made my search easy. I've been shooting the North Fork and the Barnes. Both, I might add, are exceptionally accurate. The tightest groups at 50 yards so far are .474 with the Barnes and .572 with the North Fork. Largest with the Barnes is 1.151 and with the North Fork is .802. However the trend is that the groups are getting smaller due to the fact that I'm learning how to manage the increased recoil of the Lott on the bags. (I know this is a big bore elephant gun and accuracy takes a back seat to the penetration and sheer power of these bullets, but this is accuratereloading.com not penetrationreloading.com, is it not?) I've been using 78 to 80 grains of H-335 with a Fed 215M primer in Hornady brass to start out. I've also got brass from Norma, Kynoch and Federal (nickel) ready to load. Velocity is 2212 with 78 grains and 2248 with 80 grains of the H-335. Federal factory velocity with the Trophy Bonded Bear Claw soft tip was 2273. Overall I guess I'm getting standard big bore ballistic performance; however, the accuracy of these big bullets is really impressive too.

By the way, Leslee Dengler, former manager of the Winchester Custom Shop, said to say hello and was very helpful in providing a lot of good information about the guns they built during the years just before the Winchester plant closed. She is very proud of the work those guys were putting out back then.

Thanks for all the data and I'll be watching for 100 pages and the frontier beyond. One question, if I get a Model 70 in 50 B&M, will that relegate my Lott into plinker status?

Have a great Labor Day.

Tom

Posts: 17 | Registered: 05 August 2010





posted 07 September 2010 01:18

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quote:

Originally posted by michael458:

Jim

How about these for your Long Range needs in .500



Those look mighty dandy...especially if they open properly at lower velocity!!! Though it'll still be a .500 caliber bullet arriving at the target which is a lot larger than many expanded bullets at 300yds.!

Jim 🤔

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

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

posted 07 September 2010 01:31

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quote:

Thanks for all the data and I'll be watching for 100 pages and the frontier beyond. One question, if I get a Model 70 in 50 B&M, will that relegate my Lott into plinker status?

LOL... Tom... B&Ms are like good potato chips as you can't only have one... Get that 50 B&M and soon you'll be selling your Lott (now that humongous overweight rifle) so that you can supplement your inventory with additional B&M caliber M70 rifles.

I've now shot the 416 B&M, the 458 B&M, the 50 B&M and the 50 B&M SS and I truly have a hankering for a couple of my own, specifically the 416 B&M and 50 B&M. However they'll have to wait until I finish my Mauser based 50 MDM over the next few months.

Jim 🤔

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

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

416Tanzan

One of Us



posted 07 September 2010 01:48

[Hide Post](#)

Glad to see these 416 discussions.

Some things need clarification. The 400 grainers may be a bit of a distraction.

Let's see what the 350 grain Barnes will do at 2600, 2400, 2200. Their short length should help the stability even more than the velocity. If anyone there has a CZ you could even test a 16.5" twist. If those 350 grainers are stable at all speeds, then we can treat the 400 gr. as a luxury for a 1 in 12" twist.

Currently we only have 350 grain solids in Tanzania land because we intuitively felt that they would give better stability, even before all these great tests.

+---+---+---+

"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**



michael458

One of Us



posted 07 September 2010 02:16

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TOM

Hey Buddy, damn glad to have you here! WELCOME. You will like the guys here, there is a bunch of fine fellows, mostly like minded, for the most part, and lot's of really good experience here and always willing to help out anyway they can! Glad to have you join us, and I expect you to be a regular from here on in. Always remember, there are no stupid questions, and we are all learning something all the time. Feel free to ask and jump in the fray!

As I recall the 458 Lott you are talking about is a rare one, not part of a series, and very nice. You sent photos of this right??? I think?

Tom, let me sort you out, there are 3 things you need to consider when we talk big bores, they are listed here in order of importance.

#1---Penetration

#2---Penetration

#3---Penetration

You have plenty of accuracy, so no worries there. Plenty of velocity with those 500s, 2250 is just about perfect. From the sound of it you just about have it whipped and the 458 Lott is doing it's job, as I knew it would!

I tried to call Leslie at the phone number you gave me, I think she was not in, or no answer, or something, can't really remember, I must try again.

No, you must take the 458 Lott on a couple of hunting trips first, then get a 50 B&M so that you can appreciate it more! And too, you would not want to retire the Lott before it goes to the field. Because a 50 B&M will do that to you, now all my Lotts are retired, along with everything that has a barrel over 20 inches, 470s, 510s, 416s, 358s, everything retired and in the safe. So give it a hunting trip or two before building a 50! HEH.

Good to have you here!

Michael

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



michael458

One of Us



posted 07 September 2010 02:40

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Capo

Don't worry about the pointy bullets opening up, really does not matter, not because they are hammers to begin with, but the production models will open up, we can make sure of that. Really more interested in BC and see how they do at different velocities, as you can see, one in the 500 MDM. I am pretty sure these will do what you want.

Yes, 1 B&M won't do, gotta have a few. In fact I was thinking in the near future about a new 9.3. I only have one of those you know!

Tanzan

Yes, I agree and fully accept now that 400s are just not the ticket, especially for me and the 416 B&M, but it was not designed for 400s anyway, it was designed around the 350s.

We have done 350 Barnes Banded in the 416 B&M at 2400 and lower, and the 370 North Forks, all good results. Driving 52-53 inches very consistent.





I have not run any to 2600 fps however. Might could do that in 416 Remington? Close. 2250 easy.

I don't know anyone with a CZ.

You are not at any disadvantage with 350 solids in Tanzan Land. Your intuition is correct.

M

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



tc458
new member

 posted 07 September 2010 02:51

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Michael,

Thanks for the welcome. I'm kind of old school and the Lott just naturally stood out, so I'm really excited that it's a good one. Thank you again and I'll follow your advice to use it on the elephant (knock on wood), a buff and some other stuff in Zim.

The 50 cal work you're doing is really intriguing, and to quote a guy named Taylor, "I have used every one in the .450-500 group, with the exception of the .476. There is no question but that the .500 is more powerful than the others..." I'm serious about a 50 and will talk to you more. I think using it as the lead off hitter in some place like Tanzania would be awesome.

I'll dig out Leslee's number at Marlin and forward it.

Tom


Capoward, I'll do my best to eat just one.

Posts: **17** | Registered: **05 August 2010**



michael458
One of Us



 posted 07 September 2010 03:20

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Tom

I have not seen any bad ones that came out of the Custom Shop--458 Lott's that is. I must ask Leslie about my 470 Capsticks and see what barrels they put on those things.

You won't have any issues with elephant, buffalo or anything else with your lott!

Yeah, get some 458 Lott under your belt first, then we talk about the 500s.

When are you off to Zim, this year, or next? If you have her number send it, if not I still have it somewhere from when you sent it last time.

Hey Guys, just to remind you our very own Mike is probably in country by now. He is taking the 500 gr North Forks in his 470 double! Elephant is on the list. At the last moment before leaving he was pretty impressed with the North Fork Cup Points I have been playing with, got on the phone with North Fork, had a box over nighted to him, loaded up, tested and has them with him now for buffalo in the 470. Both FPS and CPS same POI he reports!

Good Luck Mike, we are all waiting on your safe return, and looking very much forward to the field Bullet reports!

Michael

<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 07 September 2010 03:24

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We are looking at some 416s this week, as I told you. I have one more report ready for you.

370 North Fork Cup Point

416 B&M
1:14 Twist Rate
370 North Fork CPS
Muzzle Velocity 2439 fps
22 Yd Impact 2368 fps
Retained Weight 358/370
X2--29 Inches Penetration



photobucket



22 Yd Impact 2368 fps
Retained Weight 358/370
X2--29 Inches Penetration



photobucket



416 B&M
1:14 Twist Rate
370 North Fork CPS
Muzzle Velocity 2439 fps
22 Yd Impact 2368 fps
Retained Weight 358/370
X2--29 Inches Penetration

#1 - 411



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Penetration excellent, trauma transfer excellent. An excellent buffalo hammer for 416.

Michael

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

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



srose
One of Us

posted 07 September 2010 04:11

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Michael,

OK I opened a real can of worms with those hollow base bullets. I have a question! How can a 360 grain .500 bullet penetrate almost as much as a 350 to 370 grain .416 that is moving much faster?

Sam

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



capoward
One of Us



posted 07 September 2010 05:25

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quote:

Originally posted by srose:

Michael,

OK I opened a real can of worms with those hollow base bullets. I have a question! How can a 360 grain .500 bullet penetrate almost as much as a 350 to 370 grain .416 that is moving much faster?

Sam



Sam,

Here's what I was going to state:

quote:

How important is Sam's HB design? We can't say at this point other than to say that it allows a bullet of identical exterior shape and bullet construction, but 16% lighter in weight, to have the identical penetration characteristics.

but had just about decided to drop the discussion for now.

It would be interesting to HB your current 506gr BBW #13 with 67% meplat to determine if the penetration and increased trauma transfer characteristics again matched the original bullet.

I perceive that your HB designs will of greatest benefit those individuals who are recoil sensitive or utilize exceptionally light weight rifles.

So...if Sam's HB design doesn't belong as a factor within solid bullet performance how about we make it part of the NONCON category for now?

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 07 September 2010 07:59

[Hide Post](#)

NONCON features?

Yep the HB is a good one!

It does add some extra stability, and allows the rocket effect to be added to dart stability, if that HB is loaded with solid rocket fuel that ignites as it clears the muzzle. 😊

Speaking of NONCONS, here is one of my favorites for the 500 Mbogo, the starting load with 105 grains of Hodgdon Benchmark Extreme and 5 grains of dacron Filler:

GSC HV .510-caliber/450-grain copper monometal,
loaded down to 2654 fps MV (ave. of 5 shots with Sd of 2 fps),
impacted dirt berm at 50 yards,
99.4% weight retention,
180% expanded diameter:

Sorry.

This image is currently
Unavailable

Sorry.

This image is currently
Unavailable

Sorry.

This image is currently
Unavailable

I quit at 115 grains of benchmark for 2835 fps.

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



tc458
new member

posted 07 September 2010 08:31

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Michael,

You are correct. My particular Lott was not part of a series and I did send photos. It was listed in the 2004 Winchester catalog under the Winchester Custom Shop heading as a "Classic Model 70 Custom African Express". The barrel is stamped Classic Custom African on the right side with Winchester Model 70 458 LOTT Made in New Haven, CT U.S.A. on the left and has the Custom Shop and Winchester proof stamps near the action. The 470 Capstick is under the same Custom Shop heading and is listed as a "Classic Model 70 Custom Safari Express". The old catalogs are archived and downloadable from the current Winchester website.

There were 458 Lott, 470 Capstick and other rifles built with gold engraved series floorplates; however I couldn't find them in the catalog. I was told by the folks at Baron Technology in CT (they did the floorplate engravings) that some of the series guns, i.e., "Big 5" and "African Edition", were built for and sold by Cabela's. Those rifles occasionally appear on the gun sales websites. I'm not a Model 70 expert by any means, I just like them and am reporting the information that I've found.

Thanks for the reassuring comments on the performance of the Lott. I know you have a bunch of worldwide hunting experience with it. I look forward to discussing a 500 in the future, especially with the plethora of bullets that are available.

Leslee Dengler is in the shipping department at Marlin at (203) 985-3255. It would be interesting to see who did the Capstick barrels.

I'm headed to Zim summer 2011. AZ elk this fall and lots of steelhead fishing too. Had a great trip to the AK peninsula this past May for a nice big brown bear with the 375 Ackley and 300 A Frames. 2012 is wide open until SCI Reno.

Tom

Posts: **17** | Registered: **05 August 2010**



michael458

One of Us



posted 07 September 2010 14:21

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Sam

What a silly question, you know that 500 caliber is always superior to anything in the low 400s! 416s are for girls to shoot!



Man the HBs have me confused, but sometimes that's not hard to do! We will investigate further. I will talk to Dan today about those. I am sending the sample #13s to him today, and see if we can make a few with hollow bases. Will send him a hollow base sample too.

RIP

I got my hands on a few of those GSCHVs in 416 and we tested them some time ago. They did great too. Excellent NonCon.

Tom

I have a couple of Custom Shop rifles that were not part of a series too. I have two of the 358 STAs they did, and they are incredible rifles, stainless and wood. Was as I recall my first introduction to stainless/wood, and now nearly 3/4 of my personal B&M rifles are all stainless/wood. I have two #s of the Big Five series guns, #50 and #97, all of them except the 375s. Then two of the Cabelas guns, both 458 Lott, #13 and #50. Then another 458 Lott I got from them in 2000. I think some more stuff but can't recall off the top of my head. The only issue ever was the 470s and they had a hard time with that run of 125 guns. When the doors closed at New Haven I had #13 up there at the time with a busted stock. Kinda concerned about getting it back. I spoke to Leslie and she could not repair it as they were out the door, but she got it sent back to me along with an unfinished stock to go with it they had on hand. Turned out to be a great rifle, I "SSK'ed" it, shortened the barrel to 22 inches, had the stock finished and checkered, blue Brian's SSK blue, barrel band front and NECG rears, excellent rifle. I reckon that can't be called "SSK'ed", as that is "Michaeled" and what I do to all the rifles I have built.

With your 458 Lott you can put away that 375 thing you have now, you don't need it anymore. HEH

Michael

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



416Tanzan

One of Us



posted 07 September 2010 14:47

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quote:

416s are for girls to shoot!

Amen. I'll let my wife shoot our 416 but she prefers the 338WM. Let a 13 year old (110 lb) shoot the 416 last year. He liked it, said it was manageable. Well, it is manageable. That's why it's been a popular 'all-around' calibre and now coming back into its own.

+++++-----

"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**



michael458

One of Us



posted 07 September 2010 15:57

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Tanzan

I figured I would be in BIG trouble with you over that comment about 416! My wife is a sissy! I wish I could get her on a 416 it would open many doors for her, but not to be. Not sure I could even get her on the 9.3 B&M, if so it would have to be loaded down. My boys did extremely well with the 416 B&M a couple of years ago and handle it well. But they handle the 50s well too. You are right, 416 is extremely versatile, one can take the 350s at 2450 to 2550 and they do very well out to 300 yds or so, take a 300 at 2650-2700 fps and the story continues.

M

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

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





EZrider sent some samples in for me to test that I did not have last week. He requested some more 416 work with 400s at 2400 fps, and some 350s at 2550 or so. I managed to meet that goal so far, and then a little more. EZ sent some 400 gr Nosler Partitions, 400 gr Barnes X and 370 gr North Fork Bonded Cores. I am providing the 350 Barnes X, 350 Swift A, North Fork 400 FPS and 370 CPS that you see on page 91, as Tanzan has taken us over to Page 92. I knew this thread wouldnt amount to much. Who has an interest in this anyway? Boring!

I am working these in this week and have a good start. Have to make up some new boxes of medium this morning however!

First up, 400 Nosler Partition!



400 Nosler Partition does what Partitions do, shed the nose, which honestly was good 50 yrs ago or so, but I don't care for that these days myself. But I don't think that had much to do with overall penetration, the issue here is stabilization once again in 416 caliber. Still shooting the same 416 Rem in a Win M70 1:14 twist, not even the Noslers stabilized. Two of the 3 bullets tumbled near the end of penetration, and found backwards, penetration to 21 inches. The one that managed to stabilize dug in for an added 2 inches of penetration, to 23 inches, nose forward, and intact. Regardless of this, 21-23 inches is well within buffalo vitals, remember, 80% to 100% increase in penetration in animal tissue. So these will do!



Trauma inflicted was typical and good, no issues there.

M

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

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Next up for EZ is the 400 Barnes TSX.



Still we see stability issues here too. I have no doubt had all three not tumbled near the end that a few more inches would have been added to total penetration. As it is, all 3 were found sideways in the medium.



Trauma inflicted good. For all expanding bullets I try and remember to put a card in at 4 inches inside the test medium. FYI

Michael

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srose
One of Us

posted 07 September 2010 16:47

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[QUOTE]Originally posted by michael458:
Sam

What a silly question, you know that 500 caliber is always superior to anything in the low 400s! 416s are for girls to shoot!



Michael,

Man I sure stepped into that didn't I. Me of all people asking such a dumb question! 50's are great!!!!

Ok so are you saying to scrap my idea of a 416 B&M? I have a 1-14 twist barrel so from what I'm seeing I need to get rid of that barrel and get a faster twist?

Sam

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



michael458
One of Us



posted 07 September 2010 17:12

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quote:

Originally posted by srose:
Michael,

Man I sure stepped into that didn't I. Me of all people asking such a dumb question! 50's are great!!!!

Ok so are you saying to scrap my idea of a 416 B&M? I have a 1-14 twist barrel so from what I'm seeing I need to get rid of that barrel and get a faster twist?

Sam

Sam

As for the 416 B&M, I would only go to 1:12 OR 1:10 if my goal was 400 gr bullets. Fortunately because of case capacity the 416 B&M and it's normal 1:14 everyday twist rate is just dandy with anything under 370 gr bullets. The 370 North Forks stabilize great, no issues at all. Honestly, I would not scrap the 1:14 barrel, one can do about anything I can think of in 416 caliber with 350-370 gr bullets. I shot one buff with a 416 B&M and 350 Swift A and 350 Barnes Banded, no problems. Today I would probably choose either the 350 TSX or 370 North Fork CPS and 370 North Fork FPS for that work. In fact, if I were leaving tomorrow for old buff and all I had in the world was a 416 B&M then it would be the two North Forks in combo, 370 CPS followed by 370 FPS! I might throw in some of those wicked ass 330 Brass HPs I had done in 416 too!

My buddy Lou is off to Canada in a few days for moose with those 330 Brass Non Cons in 416 B&M, at 2570 fps in his rifle. Of course he can't shoot for shit, but if he can get close maybe they will hammer the moose, we will see! More than likely he will shoot one up the arse! He normally does!

Michael

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



416Tanzan
One of Us



posted 07 September 2010 17:34

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Sam

You can use the 300 grain and 350 grain bullets instead of a new barrel. Just load to a safe max.

by the way, does anyone know/remember what Ruger's 416 Ruger with 20" barrel uses for twist? They got just about everything else figured out for a handy, inexpensive, over-the-counter, DG rifle: stainless 20" barrel, controlled-feed. Wouldn't be a bad calibre for the standard-length, Win70 either. Tikkas wouldn't work, they are pretty lightweight for such a heavy calibre and they don't have controlled-feed either.

Michael,

That is strange performance with the 416 and mushrooming bullets. Do your other 416 rifles produce tumbling expanders? I am starting to wonder about the muzzle and bore on the 416 Rem. I've had Nosler partitions turnaround inside game in the past, but that was usually explainable by hitting a twig on the way to the target (sometimes having a keyhole entry, too.)

Even with a "normal" entry, could there be something marginal" with that particular 416 Rem rifle's bore?

+++++

"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**



michael458
One of Us



posted 07 September 2010 17:42

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Tanzan

I might would have thought a possible barrel issue too, but I have had 400s turn around in my other Winchester M70s too. And, the 350s and 370s do not turn, tumble or anything else besides nose forward. I went back in my notes on terminals and other 416s this morning.

In fact, this rifle in 416 Remington probably has had less than 200 rounds shot through it. Other 416s have had much more down the bore.



Also, I think the velocity is too much too. I am pretty sure things would be a little better at 2300-2350 than 2450 or so. Velocity is good to a point, and of course I am at short range, worst possible scenario too, but I want the worst scenario, not the best for testing.

Michael

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



srose
One of Us

posted 07 September 2010 17:46

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Michael,

How will the 416 B&M with a 1-14 handle lead cored soft points at 400 grains? I know the brass and copper non-con's are probably too long in this weight. Is a Swift 400 unstable in the 1-14 barrel?

Sam

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





Sam

I tested these some time ago in one of the 416 B&Ms and I did not record any instability or recall any.



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416Tanzan
One of Us



posted 07 September 2010 18:22

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quote:

Look at how short the expanded 400 grain A frame is. Short has always contributed to stability, so it may be that the monometal expanding 400 grain bullets in 416 are just remaining too long for a 14" twist. the Nosler Partitions must be right on the edge of the parameter. And if 14" is too long, then I certainly don't want to try them in a 16.5" twist in a live situation.

I would guess that 12" twist would be sufficient. On what grounds? The fact that you are getting 22" penetration means that the bullet is probably not tumbling at the beginning but towards the end of its journey. Secondly, Barnes uses a 1 in 12" twist for its tests and that may be telling us something.

+*****+

"A well-rounded hunting battery might include:
500 AccRel Nyati, 416 Rigby or 416 Ruger, 375Ruger or 338WM, 308 or 270, 243, 223" --
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Posts: **4253** | Registered: **10 June 2009**



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