

This topic can be found at:

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

**Hoot Murray**

**21 March 2010, 08:37**

**Terminal Bullet Performance**

Michael458,

This will be my third safari with HHK. My PH will be Brent Hein and he was my PH on my previous two hunts. I like you think that if you are going to Zimbabwe, it would be hard to overlook HHK. We've always had first class deal with them. No issues whatsoever. I sure am looking forward to this safari.

Tenga cuidado,  
Hoot

**I Bin Therbefor**

**21 March 2010, 08:42**

Mike70560

Mike Brady always claimed that with a properly designed and constructed soft point, the harder you drive it, the deeper it will penetrate. I think that's what you're varifying with your tests. 🙌🙌

**michael458**

**21 March 2010, 17:04**

quote:

Originally posted by RIP:  
Still waiting on the Pac-Nor Barrel for a 20" .458 B&M that might weigh 6.5 pounds dry.  
However, I am quite comfortable with carrying grownup-sized rifles. 😊

I am still waiting to grow up! Not sure when that is going to happen, but it's been a hell of a ride so far, so I am just hanging on! If growing up is any more fun than what I am having now maybe I get there one day! If not, well what the hell, I just hang around not being grown up!

M

<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.

**michael458**

**21 March 2010, 17:36**

Mike

You are going to be hard pressed to beat the North Forks! Top of the line premium expanding bullets for sure. While I have not used them in the field yet I have zero doubt of what they will do and how they will perform. I have tested only a few of them, I got some 325 416s and some 350 458s some time ago for the 416 and 458 B&Ms. Tested, but not taken to the field. Test exactly like what you show here. Very consistent across the board in performance.

Now I suppose that you will be matching a SOLID to work with these? You and RIP are going to have to do all the 375 tests, I don't own one.

As always, good work and good show!

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.

**michael458**

**21 March 2010, 17:50**

Hoot

I don't know Brent. But I am sure he is a super guy, HHK does not have any slack folks that I have met. You will be well taken care of for sure! I have been taking a break from Africa since 2008, skipping 2009 and this year totally. We had just a bit much over the last 10 + years and travel has become such a hassle. There have been years that I crossed the pond 4 times in one year, too

much. So I am hoping to regain some enthusiasm by taking some time off to do other things. Talking to Rich now about 2011 and some buffalo and maybe another ele or two for the 500 MDM. Then probably drop back to RSA for some shooting with smaller guns and the NonCons! I want to give the NonCons a proper workout on some thinner critters.

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.

**MikeBurke**

**21 March 2010, 17:50**

May need to lengthen the box when .375 NF solids testing begins. I do expect good results.

Michael,

I was re-reading the last several pages. Did you send the 220 grain .308 solids to anybody for testing?

**michael458**

**21 March 2010, 17:55**

I am not sure how our test week is going to go this week? My dumbass went to the range yesterday with the 470 Capstick to just shoot a few rounds and sight the scope in. No big deal, but my jaw took a beating from the tooth removal and is not doing so well. Only 4 rds. It's pretty sore right now. Might have to lay off a day or two, but I did not think such a little thing as 4 rds of that would bother it, wrong. I had not had the 470s out in 2-3 yrs and I upped the charges a bit to see if I could get velocity up with those shorter barrels. Nope! In fact I was a little surprised, I went 2 grs over what I had done a few years ago and got even less velocity. I am hovering 2150 fps with 500s! I was hoping over 2200. So will be testing the 500s in 470 at 2150.

M

<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.

**michael458**

**21 March 2010, 18:11**

quote:

Originally posted by Mike70560:

May need to lengthen the box when .375 NF solids testing begins. I do expect good results.

Michael,

I was re-reading the last several pages. Did you send the 220 grain .308 solids to anybody for testing?

Mike

I knew well there had to be a plan for some solids in that 375! Man can't live with expanding alone, always have some solids in the plan!

I still have the 220s and no one expressed serious interest. If you want I can send you some for testing? Be happy to do so!

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.

**michael458**

**21 March 2010, 19:08**

Finally getting some more photos and data up from early last week. Some more interesting T'Rex tests with the blocks. FYI, Interesting stuff. Clearly I am getting some added stress to some of these bullets for comparisons between construction and



materials they are made of.



458 Lott  
480 Hornady  
Block #1



458 Lott  
480 Hornady Block #2



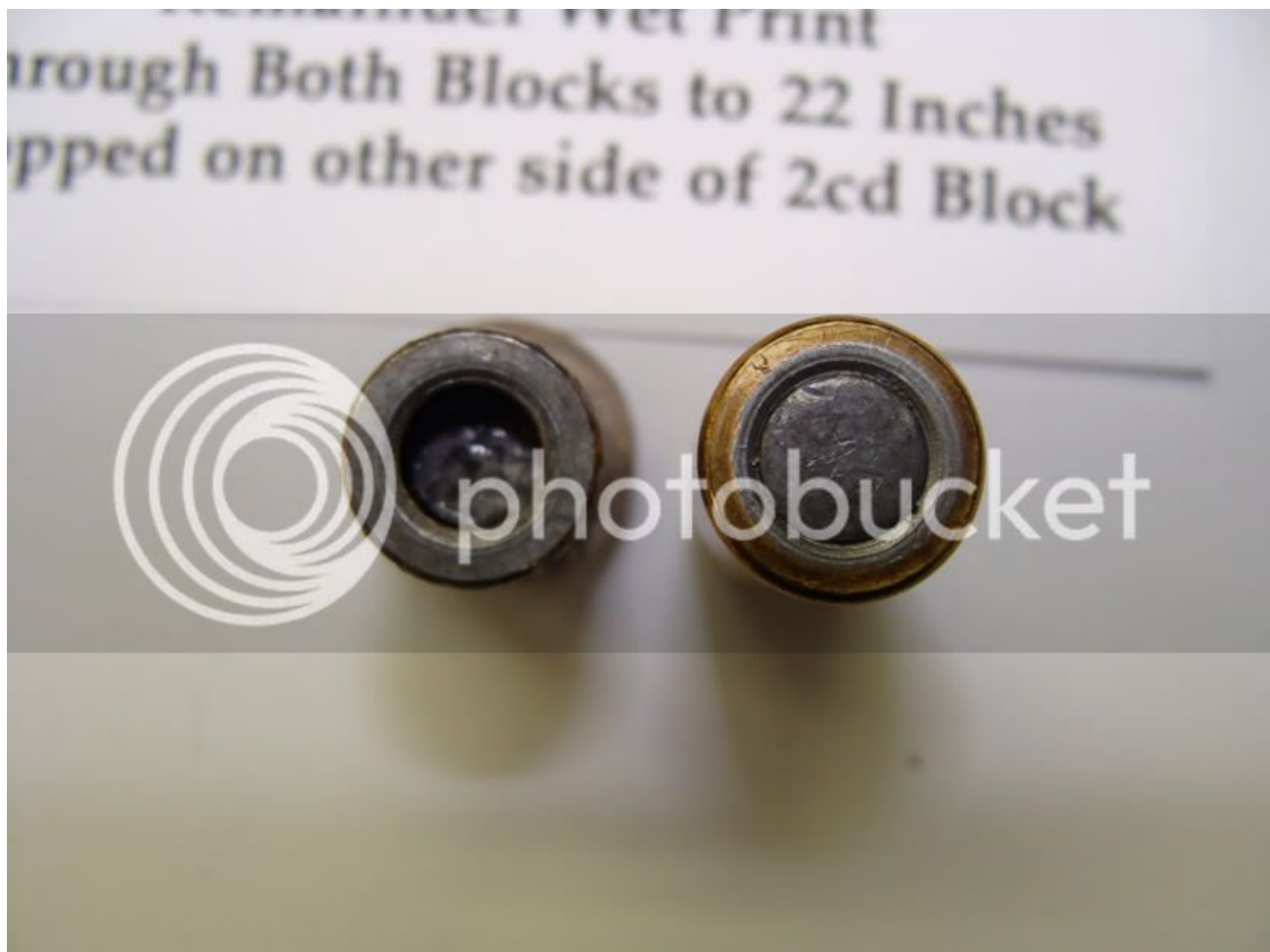
Should Read  
"AT 20" Wet  
Print 1.5"  
Concrete  
Block Added!

458 Lott  
480 Hornady DGS  
Muzzle Velocity 2254 fps  
Concrete Block T'Rex Test  
5 Inches Wet Print  
1.5 Inch Concrete Block  
20 Inches Wet Print  
1.5 Inch Concrete Block  
Remainder Wet Print  
Through Both Blocks to 22 Inches  
Stopped on other side of 2cd Block



Stopped on other side of 2cd





<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.

RIP

22 March 2010, 04:23

Hornady DGS by Doc M:

Ouch!

Looks like the Hornady DGS solid is a better bullet than their DGX soft, which can totally shed its core in a dirt berm, but still not as good a choice as a monometal copper or brass FN solid.

North Fork softs by Doc Mike:

There is no better soft.

If you can push it fast enough,

the expansion will max out and then fold back to smaller frontal area, and give greater penetration as you go faster, so Mike Brady said ...

jwp475

22 March 2010, 04:40

quote:

Originally posted by RIP:

Hornady DGS by Doc M:

Ouch!

Looks like the Hornady DGS solid is a better bullet than their DGX soft, which can totally shed its core in a dirt berm, but still not as good a choice as a monometal copper or brass FN solid.

North Fork softs by Doc Mike:

There is no better soft.

**If you can push it fast enough,**

**the expansion will max out and then fold back to smaller frontal area, and give greater penetration as you go faster, so Mike Brady said ...**

I wonder how much speed is required?

---

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

Extremist458

22 March 2010, 05:29

RIP, jwp475,

I cannot agree more. That is why I started using the GSC FN bullets back in 2001-2002. I started shooting the 400gr out of my 45-70 (yes, I'm one of "those" guys) at 2200fps+ and was getting great results on White tail. Went down 350 2 years later, 2300fps, and things really started picking up for me. Ended up trying their 300 out of sheer curiosity the next year, at 2420+fps, and the results were phenominal! So I tested them about 4 years ago. The 400's got a little expansion at 25 feet, maybe up around .400 on the meplat. The 350's grew to bore diameter+, and the 300 around .490+. I can honestly say that I have yet ever been able to keep one in a white tail, not that it's all that thick, but from any angle, and I have over 30 witetails taken to show for it. Length wise, through both shoulders, through the spine...and all great wound channals with only one that ever moved, and that was about 20 yards where I gave it another...that is why I love the lever guns! I don't have pictures from those tests, but I do have one that mimics it from the GS website, on this page: <http://www.gsgroup.co.za/03fn.html> .

-Extremist

"Pain is weakness leaving the body" -Instructor

Victory in life is dying for what you were born to do.

"I hope you live forever" -300

"Never judge an enemy by his words, he might turn out to be a better shot then a writer"

<http://www.gscustomusa.com>

Extremist458

22 March 2010, 06:00

jwp475,

Hey, do you remember our phone conversation? Guess what, I finished them! Well, not completely finished, because I still have to set up a system to cut grooves or bands (depending on what I can get away with), and then I can test them. Too affraid to test them without (ran out of funding). Here's what I have so far.













In the first pictures, you see the first machined steel prototypes I had coated, and the tungsten core, flanked by two test Belt Mountain Punch bullets. The first one is electroplated (thumbs down!) and the second one a different plating (thumbs up!) but they have not expressed to me just how they did it yet. It is perfectly concentric and literally flawless! The third one, and following pictures is the 610 grain Tungsten core (and some Punch Bullets for your eye pleasure). It is only .9" long. I have the finished coated tungstens but I have not taken pictures of them. Will post more when I'm done fiddling with them and get my patent



pending returned in full patent. They are just under .920" long and .460 diameter, and weigh 640 grains. You cannot get the jacket off, unless you grind it off, and this bullet does not deform under a sledge hammer! Well...it dented a bit on the edge (I wasn't straight down :- ( ) Just thought you might like to see them. What do you think?

-Extremist

"Pain is weakness leaving the body" -Instructor  
Victory in life is dying for what you were born to do.

"I hope you live forever" -300

"Never judge an enemy by his words, he might turn out to be a better shot then a writer"

<http://www.gscustomusa.com>

**boom stick**

**22 March 2010, 07:05**

Extremist...

WOW

Give those a bore rider driving band design at nominal weights for lower pressure and you will make something awesome be awesome +1

[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**

**23 March 2010, 16:28**

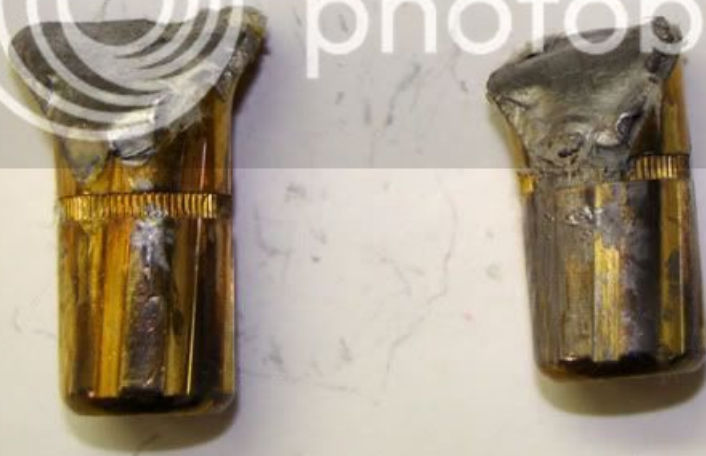
RIP

Along with the 480 DGS I tested the 480 DGX when they hit the market. 480 would have made a good compromise bullet in between with the 458 B&M, but the deal is neither would perform good enough for me. I have rather high standards for my bullet performance, as we know, and I will accept nothing but the best. With Winchester M70s one does not have to compromise too much! I found the DGX bullet exactly like the big bore 458 Interbonds, the nose breaks off and a 400 gr slug penetrates to about 20 inches, let me see I think maybe I have a photo. Yes, found them.



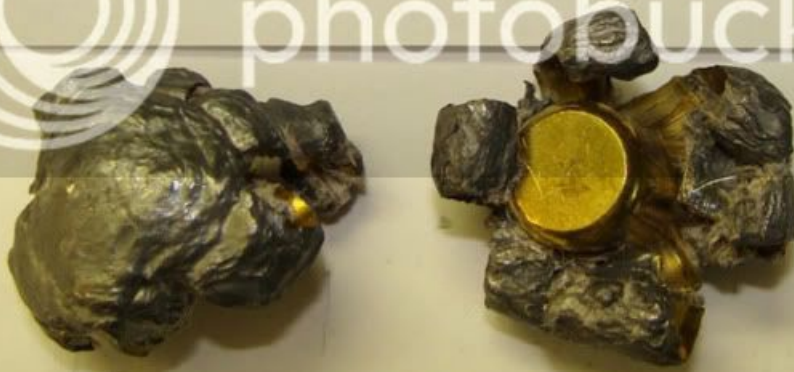


**458 Lott**  
**500 Hornady Interbond**  
**Muzzle Velocity 2253 fps**  
**25 yd Impact**  
**Retained Weight 412 & 355 grs**



Now the funny thing is the 416 caliber 400 Interbonds, performed differently from the 458 versions????? I never bothered with any of the 416 DGX's. These were a little soft, but at least didn't break in the middle. Would make good thin skinned critter bullets.

**416 B&M**  
**400 Hornady InterBond**  
**Muzzle Velocity 2426 fps**  
**21 yd Impact Velocity 2381 fps**  
**14 inches total Penetration**  
**Retained Weight 334 & 347 grs**



<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.

**michael458**

**23 March 2010, 16:31**

Extreme

Those are some "Extreme" looking bullets! When is test day?

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.

**Extremist458**

**23 March 2010, 22:18**

Michael,

Sorry man, no testing in the near future. I have the machine I need all spec-ed out and designed, the engineering done and mathmatics worked out (that took a while) to final-form the bullet, but I have ran out of green for my green bullet!

Interesting note: Original intent was to creat a 600 grain bullet that was shorter then the 500's and even 400's, but later decided to just stick with conventional weights for load development ease...but was forced to stay heavy by design peramiters. I needed to keep a shaft that was at least one caliber in length for proper loading & crimping, and the nose design is optimized with a .370+ meplat. Did lots O' research on the subject, and went off a lot of statistical data done by Bear Tooth bullets, Randy Garrett and jwp475, as well as some winning combinations at the Linebaugh seminar, and formed this design. A simple modification to the design can be made with a straight truncated cone with a slightly smaller meplat to get the weight down to 600 (vs the 640-650 it is now), but I feel the performance and reliablility in feeding will go down.

Sooooo, I am waiting until a day sometime soon that I can continue with this project; my life's work, and show the world what they have been missing 😊 -AP March 23, 2010

P.S. I brought up a good point on here some time ago about material density & hardness relative to penetration (primarily in bone) and no one bit off on it. Interesting thing I've found, through some bit of research, is that the harder and denser the object in motion, the greater the penetration, AND the less energy spent in the process. I should say that the military has been testing this for years, and none of this is new, but I think it's something that few big and dangerous game hunters take into consideration. I know this can turn into yet another SD and bullet weight issue, so I'll save us from that and ask that we keep it on actual material hardness and density. Thoughts?

-Extremist

"Pain is weakness leaving the body" -Instructor

Victory in life is dying for what you were born to do.

"I hope you live forever" -300

"Never judge an enemy by his words, he might turn out to be a better shot then a writer"

<http://www.gscustomusa.com>

**I Bin Therbefor**

**24 March 2010, 01:50**

quote:

Extremist458

Please be careful when reading the military tests. There are material characteristics that are of interest when dealing with various armor plate that are not applicable here. Example, depleted uranium is NOT the most dense material but does interesting things when it hits armour plate.

**Extremist458**

**24 March 2010, 07:56**

Great man, thanks, I'll be careful.

-Extremist

"Pain is weakness leaving the body" -Instructor

Victory in life is dying for what you were born to do.

"I hope you live forever" -300

"Never judge an enemy by his words, he might turn out to be a better shot then a writer"

quote:

Originally posted by Extremist458:  
jwp475,

Hey, do you remember our phone conversation? Guess what, I finished them! Well, not completely finished, because I still have to set up a system to cut grooves or bands (depending on what I can get away with), and then I can test them. Too affraid to test them without (ran out of funding). Here's what I have so far.

















In the first pictures, you see the first machined steel prototypes I had coated, and the tungsten core, flanked by two test Belt Mountain Punch bullets. The first one is electroplated (thumbs down!) and the second one a different plating (thumbs up!) but they have not expressed to me just how they did it yet. It is perfectly concentric and literally flawless! The third one, and following pictures is the 610 grain Tungsten core (and some Punch Bullets for your eye pleasure). It is only .9" long. I have the finished coated tungstens but I have not taken pictures of them. Will post more when I'm done fiddling with them and get my patent pending returned in full patent. They are just under .920" long and .460 diameter, and weigh 640 grains. You cannot get the jacket off, unless you grind it off, and this bullet does not deform under a sledge hammer! Well...it dented a bit on the edge (I wasn't straight down :- ( ) Just thought you might like to see them. What do you think?

Nice looking bullets 🤖

---

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

**michael458**

**26 March 2010, 20:52**

Hey guys, been a quite week this week. I've been a bit under the weather almost all week long. Sinus, headaches, allergy, cold, flu, something like that. Tired and zero energy all week. No shooting done, and don't look like anything gonna get done this week!

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.

**RIP**

**27 March 2010, 07:12**

Doc M,

You done wore yourself out working so hard on the testin'.

Take a break an' rest up! 🤖

I got my Pac-Nor barrel delivered yesterday.

1:10" twist .458-caliber stainless, No. 4 Pac-Nor sporter contour, very slim at 28-3/8" length, muzzle diameter is only .636", but the shank is 1.205"-diameter for a full 3.325"-long Knoxform.

Plenty heavy, as it is .720" for muzzle diameter when cut to 20" length.

That is good.

I will send it on to Brian to get it chambered to .458 B&M. 🤖

**Macifej**

**27 March 2010, 11:35**

HURRY!!! Someone overnight Doc M a bucket of Multi-Vitamins and a case of FRS!!

Come on Michael!!! I haven't had a cold or Flu in over five years!! You need to modify your diet or quit drinking cheap booze!!



**Esskay**

**27 March 2010, 13:34**

Folks,

Am a new member here and have been following this thread with great interest. Some fantastic work you folks are doing here 😊

Ran across an article which may be of interest...I am going to post the url as the article itself would take almost a full page..however an extract that vindicates the work you are doing here:

"Understand the implications of this. It means that there is evidently something inherently efficient about the penetration of very broad flat-nosed solids (small meplats behave like conventional round noses). If you examine the bullets for which this behavior holds, the ratio of the meplat to the bullet caliber is typically 0.7 or larger. I suspect that the effect is a minimization or even a damping of bullet yaw and that there is a point between a meplat ratio of 0.7 and 0.5 where an abrupt transition occurs. Now, I understand that very broad noses like this are unpopular with users of repeating rifles because they have a nasty habit of snagging on the magazine rim or feed ramp, but for single shots and double rifles they really ought to be considered. "

<http://www.rathcoombe.net/sci-...listics/methods.html>

Regards

**michael458**

**27 March 2010, 19:28**

RIP & Agent J

I'm worn out, that's for sure, but not sure if it was from the shooting or not! I doubt it! I am going to be taking a little break however for a few days. I have some rifles to sight in and minor things, but terminal tests are rather demanding so I will leave that for a few days. I have to get a 416 B&M ready for the Arctic, leaving April 10th. I had decided to take an 18 inch gun, but I see Canadian laws prohibit anything under 18, and you know government officials and technical things. While the barrel is dead on 18 anyway you measure, I am not so sure a government official is competent enough to measure properly??? So on the safe side I am now leaning towards one of the 20" inch guns!



YIPPIE RIPPY! PacNor ON HAND!!!! At 20 inches and .720 at the muzzle that is almost the exact same size as the 9.3 B&M barrel contour--at .725. That is sweet little gun at 20 inches. The 9.3 comes in at 7.5 lbs, with a AI Claro Walnut stock!!! With a synthetic it will come in at 6.5 easy, then bigger hole at .458 you are going to be excellent in the light department! 6 lbs? Nice! VERY Nice!

Can't wait to see what that 1:10 does too!

Great!

J, taking bucket full of drugs every day! I have not had a cold/flu or even terrible allergies in years myself, must be getting old! Problem is, not drinking enough booze! Need to drink more, get pickled!

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.

**michael458**

**27 March 2010, 19:41**

Hi Esskay!

A very warm welcome to you! Glad to have you on board, and glad that you have taken an interest in our little party! Thank you for the kind words, I thank you from all the guys here doing the work along side myself too!

Glenn (someoldguy) also brought rathcoombe to us way back when. I think we are on to it also. I appreciate and like the things rathcoombe has done with his work, but for some reason I just can't get to study his entire project, I suppose I am too busy with my own issues to get everything read and understood proper.

The extract you list absolutely falls very much in line with what we have been finding also.

I was thinking the other day, I know of no real studies in the area in which we have dived into head first, testing these big bore rifle solids. It's been danced around, but I have not seen anything as extensive as what we have been doing here, in particular with the variety that we have been working with. Oh no doubt, there is much to be done, and much we could do far better and far more extensive. But for our purposes I think we have done pretty well and covered a lot of ground in a short period of time. We have made some really great strides in this little study of ours, and I am pretty sure we have a good handle on some of the very important factors involved;

Nose Profile---% of meplat for Caliber---Twist Rates---Velocity---Construction/material---SD

Those are the most important, and pretty much in order of importance as far as I am concerned. Did I miss anything guys?

We have "miles to go before we sleep" but "I see the light", one might say!

Thanks again Esskay!!!

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.

**Esskay**

**27 March 2010, 20:14**

Michael,

Thank you for the warm welcome 😊.

Used to live in the US for 25 years, now back in India. Grew up shooting the old English rifles. In fact, the first rifle (other than a 22 lr) was a 450/400 31/4" Farquaharson falling block.

I have a thread posted  
<http://forums accuratereloadin...4711043/m/8531031921>  
and if and when you have the time, would appreciate your advice.

Something that I am not sure of is this - is the relationship between rotational velocity (due to twist) and linear velocity always constant? My gut reaction is I doubt it but don't know...

Regards

Esskay

**416Tanzan**

**27 March 2010, 22:37**

quote:

Originally posted by Esskay:  
Michael,

Thank you for the warm welcome 😊.

Used to live in the US for 25 years, now back in India. Grew up shooting the old English rifles. In fact, the first rifle (other than a 22 lr) was a 450/400 31/4" Farquaharson falling block.

I have a thread posted  
<http://forums accuratereloadin...4711043/m/8531031921>  
and if and when you have the time, would appreciate your advice.

Something that I am not sure of is this - is the relationship between rotational velocity (due to twist) and linear velocity always constant? My gut reaction is I doubt it but don't know...

Regards

Esskay

if i'm understanding your question I can give a quick answer:  
the forward velocity slows down at a faster rate than the rotational velocity.

Because of that, the stability calculations at the beginning/muzzle only get 'better' as the bullet slows down due to air resistance.



The spin doesn't slow down as fast, so that relatively, the spin rate is increasing. Let's say in the first ten feet a bullet would spin 10 times (from a 1 in 12" twist). Out at a three hundred yards the bullet has slowed down so that it takes longer to cover the ten feet. For this example, let's say it only covers eight feet in the same time, but it still spins 9.8 times in the time it used to spin 10. That would be a considerable increase in relative twist rate. It would be as if the twist became almost 1 in 8" (9.8 twists in 96 inches).

+ + + + + + + +

"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.

**capoward**

**28 March 2010, 01:08**


quote:

if i'm understanding your question I can give a quick answer:  
the forward velocity slows down at a faster rate than the rotational velocity.

Because of that, the stability calculations at the beginning/muzzle only get 'better' as the bullet slows down due to air resistance. The spin doesn't slow down as fast, so that relatively, the spin rate is increasing. Let's say in the first ten feet a bullet would spin 10 times (from a 1 in 12" twist). Out at a three hundred yards the bullet has slowed down so that it takes longer to cover the ten feet. For this example, let's say it only covers eight feet in the same time, but it still spins 9.8 times in the time it used to spin 10. That would be a considerable increase in relative twist rate. It would be as if the twist became almost 1 in 8" (9.8 twists in 96 inches).

Randall,

That is an interesting analogy...and it makes perfect sense. Its certainly indicative that twist rate is more important than perhaps we've even previously considered for terminal stability.

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

**Esskay**

**28 March 2010, 01:14**

416Tanzan,

That makes a lot of sense. I wonder if anyone has any idea of the ongoing relationship between rotations/forward velocity, once the bullet has left the muzzle and started slowing down.

Thx much  
Esskay

**MikeBurke**

**28 March 2010, 04:49**

Going to a wedding reception so I will post a full report tomorrow.

Today I was testing North Fork and TSX bullets for the 375. Range is 33 feet. The test today was 12" of wet newsprint, a Hardy Plank (approximately 5/8" thick), 3/4" piece of plywood, then more wet newsprint. I place the hardy board and plywood in the box to simulate bone.

For fun today I fired a 155 Grain SMK Palma load in to the box. Impact velocity was 3005 FPS. The bullet literally disintegrated when it hit the hardy board.

I was pleasantly suprised with the TSX results. Nearly 100% weight retention even through the hardy board and plywood.

**416Tanzan**

**28 March 2010, 20:33**

all the pictures raise another cosmetic issue.

In light of this thread and looking at the 'logo picture' of a 458 RN Lott on the 'Big Bore forum', someone might request that a new picture with a flat-nose solid be put up.

+ + + + + + + +

"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.

**Austringer**

**28 March 2010, 23:28**

Hello,

I just discovered this excellent thread and still have a lot of reading to do, I am only on page 3.

I've noticed there have been several points made by "ALF," that have lead to discussions, but I am unable to see his postings.

I know there is a blocking feature, but I have never used it. Not to mention I would have had no reason to block "ALF." Does anybody know what the problem may be? Could I have something set up that would block certain members?

Thank You,

Marc

**capoward**

**29 March 2010, 03:15**

quote:

Originally posted by Austringer:  
Hello,

I just discovered this excellent thread and still have a lot of reading to do, I am only on page 3.

I've noticed there have been several points made by "ALF," that have lead to discussions, but I am unable to see his postings.

I know there is a blocking feature, but I have never used it. Not to mention I would have had no reason to block "ALF." Does anybody know what the problem may be? Could I have something set up that would block certain members?

Thank You,

Marc

Marc,

Welcome to the thread; it's one of the most informative that you'll find on the AR Forum.

Alf and dots... It's not your computer and you haven't placed him on ignore. Alf has dropped in and out of this thread multiple times...and each time he drops out he deletes his full posts leaving behind nothing but dots. As you read further into the thread you'll notice that a few individuals immediately quote Alf to preserve his posts...but many were missed and thereafter lost to dots.

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

**MikeBurke**

**29 March 2010, 07:21**

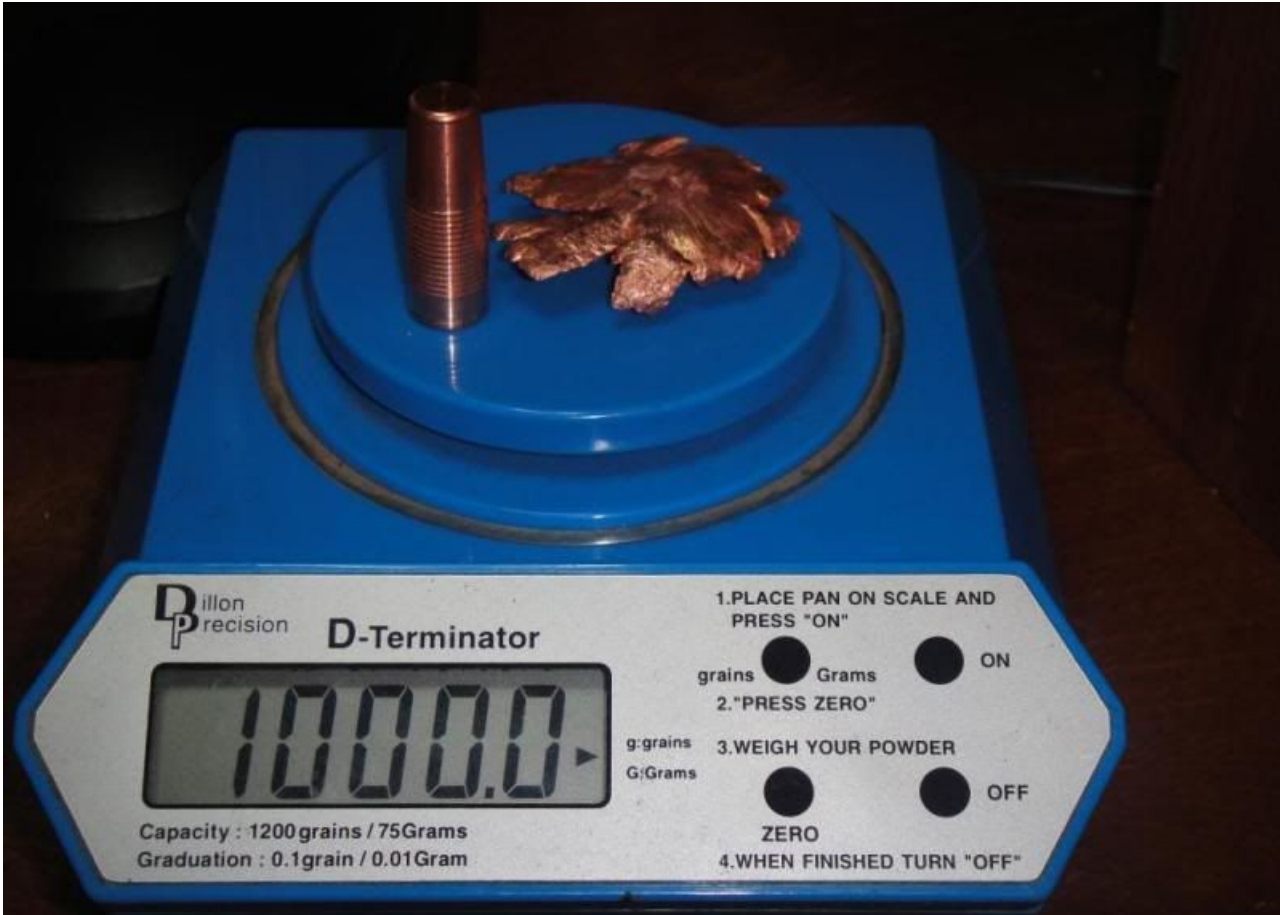
Every now and then I have to try something borderline stupid.

The goal was to bend a North Fork .474 500 Grain bullet.

The set-up: 12" of wet newspaper, 3 pieces of hardy board, 3/8" thick A-36 steel plate. That is as far as I need to go.



It did not bend but it did flatten out. It was also very very hot.



This was surprising????

Yesterday I also vaporized a 155 Grain Sierra Matchking. I shot one of my Palma loads in to the wetpack. When it hit the hardy board it disintergrated. 3005 FPS Impact velocity will do that to a match bullet.

You have to have a little fun, bullet testing is hard work.

**MikeBurke**

**29 March 2010, 07:28**

Now for the real test. I am still not sure what I will shoot out of my 375 H & H this fall in Africa. It may come down to the more accurate bullet between the NF and TSX. We are very fortunate to have several premium softs available to us.

This test along with another I ran with the North Forks indicate the North Forks will penetrate deeper when pushed harder. The TSX tend to penetrate less when pushed harder. More testing is needed to confirm.

This test was a little tougher on the bullets than my previous test with the softs. The hardy board seems to really stress bullets. I thought the petals would peel off the TSX, wrong again.

Number 11 bullet penetrated 4" deeper than number 9, 10, and 12. All four bullets were fired in the same pack, it was the third bullet fired of the four. Do not know why and probably will not test the Swift any more. The Swift and Trophy Bonded bullets were factory ammo from at least 10 years ago.



Picture Number	Date	Bullet	Caliber	Weight	Powder	Powder Charge	Impact Velocity	Retained Weight	% Retained	Total Pen.	Notes
01	28-Mar-10	TSX	0.375	300	IMR 4064	62	2286	299.5	99.83%	16"	
02	28-Mar-10	TSX	0.375	300	IMR 4064	62	2301	299.2	99.73%	18"	
03	28-Mar-10	TSX	0.375	300	IMR 4064	64	2332	298.7	99.57%	15"	
04	28-Mar-10	TSX	0.375	300	IMR 4064	64	2355	299.6	99.87%	15"	
05	28-Mar-10	TSX	0.375	300	IMR 4064	66	2465	299.3	99.77%	15"	
06	28-Mar-10	TSX	0.375	300	IMR 4064	66	2481	299.6	99.87%	14"	
07	28-Mar-10	North Fork	0.375	300	IMR 4064	62	2208	297.4	99.13%	15"	
08	28-Mar-10	North Fork	0.375	300	IMR 4064	66	2486	287.7	95.90%	18"	
09	28-Mar-10	Trophy Bonded	0.375	300	Factory	Factory	2414	272.9	90.97%	15"	10 Year old Federal Ammo
10	28-Mar-10	Trophy Bonded	0.375	300	Factory	Factory	2429	267.3	89.10%	15"	10 Year old Federal Ammo
11	28-Mar-10	A-Frame	0.375	300	Factory	Factory	2397	283.7	94.57%	19"	10 Year old Rem. Ammo
12	28-Mar-10	A-Frame	0.375	300	Factory	Factory	2363	283.5	94.50%	15"	10 Year old Rem. Ammo

**Notes: CZ 550 Left Hand**

**Twist rate 1-12**

**Barrel Length 24"**

**Test Media: 12" of wet newsprint**

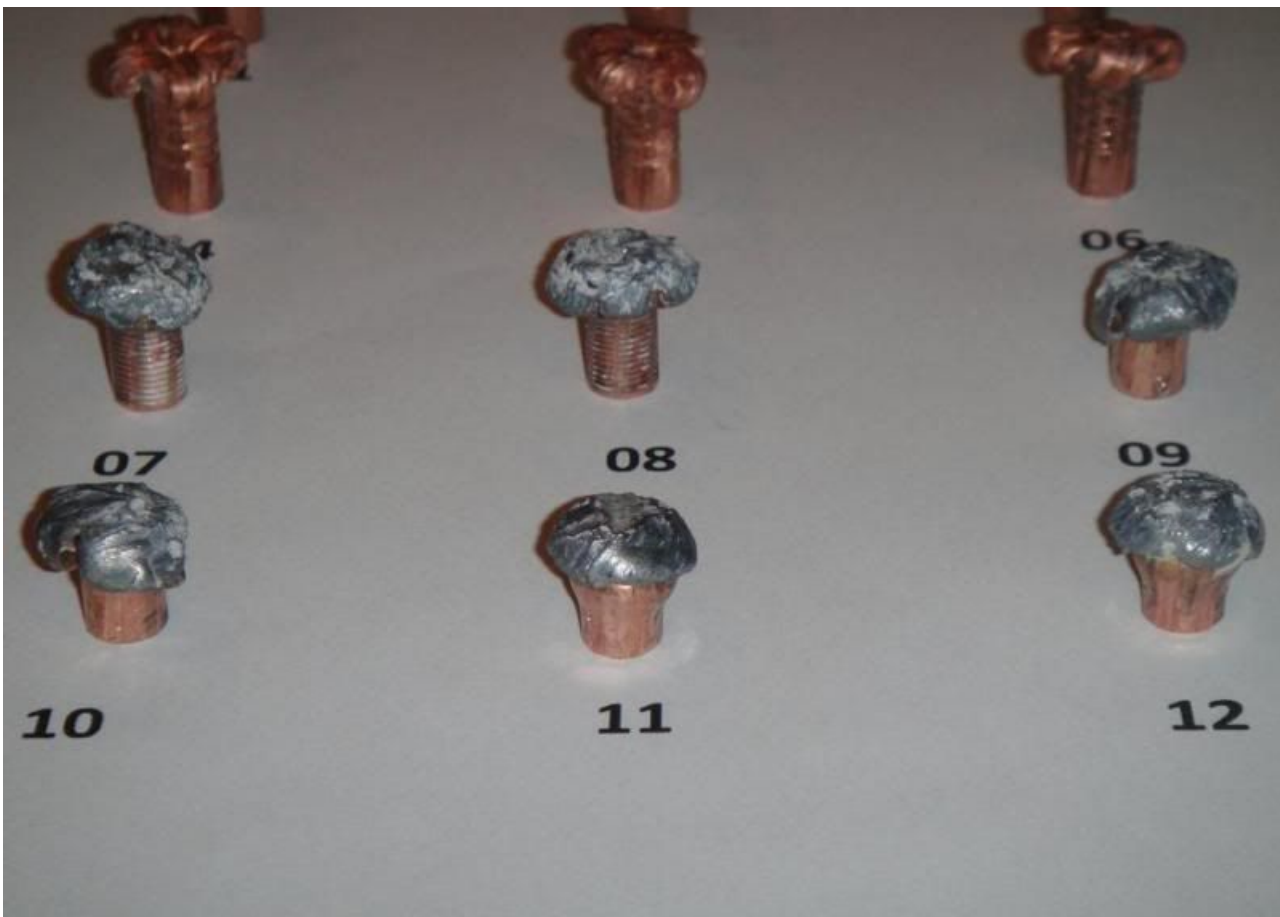
(1) Pieces of 5/8" Hardy Board

(1) Pieces of 3/4" Plywood (no space between)

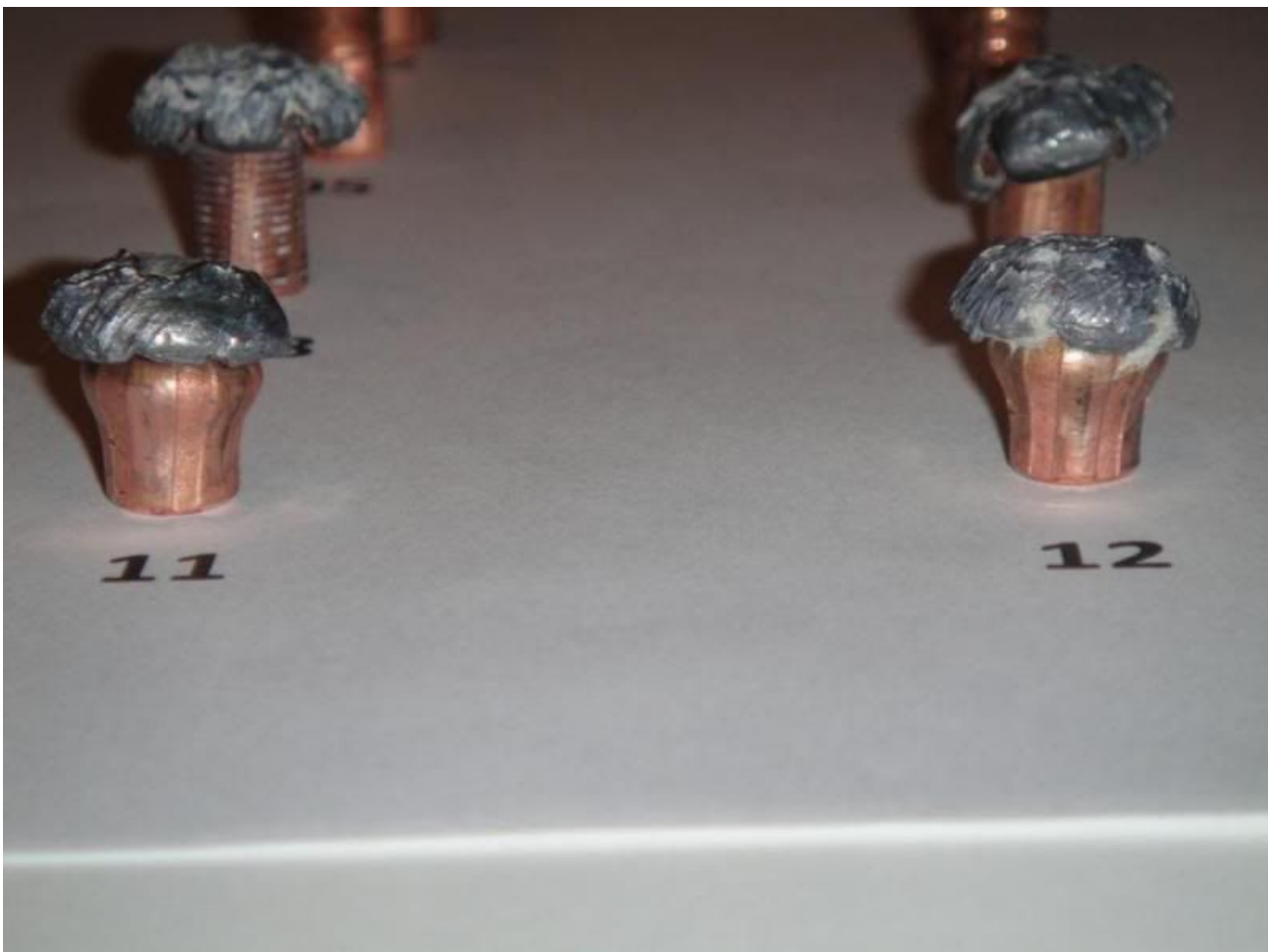
36" of wet newsprint



Good looking TSX



Swift, Trophy Bonded, and North Forks



Only the Swift bulge at the bottom

Capoward,

Thank you for your reply, I just learned what happened to the posts. Glad to find out it's not something I did, I'm pretty new to these internet forums. I'm to page 13 now and have discovered that there are plenty of opposing views to give me a wide range of perspectives.

I agree, this is a great thread!

Marc

**michael458**

**29 March 2010, 15:56**

quote:

Originally posted by Mike70560:

Now for the real test. I am still not sure what I will shoot out of my 375 H & H this fall in Africa. It may come down to the more accurate bullet between the NF and TSX. We are very fortunate to have several premium softs available to us.

This test along with another I ran with the North Forks indicate the North Forks will penetrate deeper when pushed harder. The TSX tend to penetrate less when pushed harder. More testing is needed to confirm.

This test was a little tougher on the bullets than my previous test with the softs. The hardy board seems to really stress bullets. I thought the petals would peel off the TSX, wrong again.

Mike

Excellent work, I don't see any losers here at all. I would use whatever bullet (TSX or NF) that shoots best with the solid you will be matching it with. Either will do the job I am sure! What you see with the TSX is the same that I have seen too, remember the differences in the two 338s--338 Winchester Velocities and 338 Ultra Velocities--same story, less penetration at Ultra velocity with the TSXs. So that would seem to be the trend with those. It would seem that the new TSX bullets will handle lot's of stress and hold. I like them! But I also like the North Forks, Swifts, Woodleighs, NonCons, oh man, I just love good bullets regardless!

Austringer

Welcome to our party! Glad you might be able to get something out of it. I know I am learning, not sure about anything else. Once you get through reading (next few days or weeks) let me know what you think. I believe we are on the "edge of discovery" HEH! But we will see!

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.

**buffalo**

**29 March 2010, 16:57**

Hi Michael.. How is your jaw..? Ready for shooting... 

**michael458**

**29 March 2010, 17:11**

Hey Buff

I think it's doing well! I am going to sight a couple rifles in this morning sometime to check it out! Maybe I get some shooting done this week? First up is the 458 Hornadys.

What were you doing on a mountain top in Norway last week?

M

<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.