**416Tanzan** **28 February 2010, 14:54**

**Terminal Bullet Performance**
Capoward

quote:

> So to further my desire for continuing education I have a quick question for the pundits, “Why would a 10” twist rate not be as advantageous for use with a 1.396” length .510 caliber bullet as it is for use with a 1.396” length .308 caliber bullet?”

Because stability is related to bullet shape, not just length. A long thin bullet (308) needs more spin than a long fat bullet (510).

Side request: Could you do a Quickload on 338 WM with 225 TTSX and Reloder 17 powder? (we'll be looking for H4350 for the new loads, but we've got 100 with Rel17 that we may want to take a grain out of their 69grains.)

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

"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** **28 February 2010, 16:41**

quote:

> Originally posted by boom stick:
> The smaller meplat of the Grand slam meant more penetration but less damage per foot of penetration I think.

Boomy

NO! The smaller meplat of the Grand Slam is not an attribute for more penetration, it is the fact that the shorter more compact 400 gr Grand Slam was able to stabilize in the 1;14 twist of the Winchester M70 better than the same weight 400 gr Barnes. While the two bullets are not exact, much the same as what we saw with the 458 400 Barnes Buster in the 458B&M with 1:14 and the 45/70s at 1:20.
The meplat was just enough with the right twist rate to stabilize for good penetration. For instance if my 416s were say 1:10 or 1;12 the 400 Barnes would be better stabilized, giving equal penetration or better.

The meplat of the Grand Slam is something on the order of 55% of caliber, but with it being short and compact as compared to the monos of the same weight it was able to stabilize.

This particular test was yet another that points out how important twist rate can be for terminal penetration of solid projectiles. And in particular to 416 caliber twist rate is very important, and it seems even meplat size cannot out weigh the importance of twist rate!!!!!

It is my belief that as one goes up in caliber--458 and up, that twist rate is still extremely important as I know in my .500s, but I also know that meplat size can overcome some other deficiencies in other areas such as twist rate. I have 70% meplat for caliber .500s that can stabilize enough in 1;18 for deep penetration and 60% of meplat for caliber that will not stabilize in 1;18! Now move them to 1;12 and all FN are far more stable than 1;18 and penetrate deeper because of it.

As we move forward with this study we begin to uncover more and more. And if we continue I suspect we might just learn some new things! The twist rates in the 416s have been an eye opener for me for sure! I was involved in getting the twist rate from 1:18 to 1:12 in my .500s, but that was also getting help and suggestions from JD and Brian at SSK. As for my 458s and 416s, I did not pay enough attention, nor have enough knowledge at that time to say, like many I just figured some smart ass some where knew a hell of a lot more than me about that! Today, 1;12 at least for those two calibers! Although I really have not had the same issues with my 458s as with the 416s at 1;14. Again, my 416 B&M was designed around 350 gr bullets to begin with anyway. So I can live with what I have easy, but build another it will be 1;12 for sure to handle anything!

Good Morning Gents!

Michael

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you, nor anyone else.

**Mafunyane** **28 February 2010, 16:56**

quote:

> Originally posted by michael458:
> Mafunyane
>
> Don't happen to know a fellow Leon Koen do you? Andrew Schoeman? Just curious, friends of mine.
>
> Michael

No Michael do not know them.

Just want to ask you: Is to fast a twist bad and if so, why?

Can a bullet be over stabilised? or will it only raise the pressure.

All that is needed for evil to triumph is for good men to do nothing!!

**michael458** **28 February 2010, 17:09**

Mafunyane

Is too fast a twist bad and why if so??? That's a good question, I don't have the answer to!

There is no concerns about pressure, I do know that. Twist rate does not lower or raise pressures.

In the .500s I went from 1;18 to 1;12, and I did not know what other factors it would effect, I found zero difference in velocity or pressure of the same loads.

Now making a radical change I think is what you are asking, like going from 1;14 or so to 1;6? I don't know what happens with something radical like that, with a big bore bullet? I know on the smaller bores, they say--You know THEY---that barrels burn out from erosion quicker, but in this arena I am no expert???

I think RIP or Jim, Glenn or some of the other guys are more qualified than I to give you a proper answer.

We have been talking going from 1;14 to 1;10 and 1;12, not radical and from those changes there would be zero issues with anything, and increased performance for all solids, including the old RN!

Michael

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**michael458** **28 February 2010, 17:12**

One thing for Mike--Did I see that your 470 NE is 1;20 twist rate? Did someone mention that along the way or am I nuts?

If it is actually 1;20, this is a case for sure of meplat size overcoming a very slow twist rate, as the case of the North Forks! And this has to be related to caliber as 416 cannot do so!

If it is not 1;20, then I just have my head up a goats ass, on this ONE!

Michael

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**I Bin Therbefor** **28 February 2010, 17:16**

quote:

> Originally posted by michael458:
> Mafunyane

Is too fast a twist bad and why if so??? That's a good question, I don't have the answer to!

There is no concerns about pressure, I do know that. Twist rate does not lower or raise pressures.

In the .500s I went from 1;18 to 1;12, and I did not know what other factors it would effect, I found zero difference in velocity or pressure of the same loads.

Now making a radical change I think is what you are asking, like going from 1;14 or so to 1;6? I don't know what happens with something radical like that, with a big bore bullet? I know on the smaller bores, they say--You know THEY---that barrels burn out from erosion quicker, but in this arena I am no expert???

I think RIP or Jim, Glenn or some of the other guys are more qualified than I to give you a proper answer.

We have been talking going from 1;14 to 1;10 and 1;12, not radical and from those changes there would be zero issues with anything, and increased performance for all solids, including the old RN!

Michael

I've researching this in published papers as best I can. Current state of my knowledge says as long as the twist rate doesn't cause the bullet to come apart, twist away.

**Mafunyane** **28 February 2010, 17:17**

quote:

Originally posted by michael458:
Mafunyane

Is too fast a twist bad and why if so??? That's a good question, I don't have the answer to!

There is no concerns about pressure, I do know that. Twist rate does not lower or raise pressures.

In the .500s I went from 1;18 to 1;12, and I did not know what other factors it would effect, I found zero difference in velocity or pressure of the same loads.

Now making a radical change I think is what you are asking, like going from 1;14 or so to 1;6? I don't know what happens with something radical like that, with a big bore bullet? I know on the smaller bores, they say--You know THEY---that barrels burn out from erosion quicker, but in this arena I am no expert???

I think RIP or Jim, Glenn or some of the other guys are more qualified than I to give you a proper answer.

We have been talking going from 1;14 to 1;10 and 1;12, not radical and from those changes there would be zero issues with anything, and increased performance for all solids, including the old RN!

Michael

Thanks Michael
Just wondering why manufacturers don't make the twist faster then. Especially since most of today's solids is longer than the old days.

All that is needed for evil to triumph is for good men to do nothing!!

**416Tanzan** **28 February 2010, 17:23**

For the record, Barnes uses a 12" twist in its 416 data page on their website. I would choose 12" were it up to me, too.

On too fast a twist, that is mainly a concern for those shooting very very long range, say in the 500-1000 range. After the bullet reaches the high point and starts to drop, a high twist rate may keep the bullet tip 'up' in the original arc position. This is not much of a concern to those using .400 bore and higher--except perhaps those of us who consider the 416 Rigby an all-around plains game gun, too.

I'm not too worried, because I don't expect to be shooting dangerous game at 200-400 yards. And if a 416 tumbles on a hartebeest or waterbuck at 300 yards, it will put it down with authority, anyway.

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

"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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**michael458** **28 February 2010, 17:33**

IBT & Tanzan

Excellent, in looking at the logic of the matter I would go along with both your statements. I am no long range shooter, so I am

totally out of the loop on that knowledge. Bullet coming apart, absolutely correct, too much twist will do so on those smaller bullets. Of course not in our case.

I can only state that the manufacturers have not paid much attention to twist rates and terminal penetration of solids! Twist rate makes little difference in terminal penetration of expanding bullets as penetration is much less than solids, so there is little concern there, twist rates for accuracy I would think would be their main concerns, and past proven twist rates is what they would go for in that arena.

I don't believe that hardly anyone anywhere has paid much attention to twist rates and terminal penetration of solids, and their stability during penetration!!!!! With more and more solids being shot today than ever before, someone should pay attention to that very very important detail! Wait, someone is paying attention, It's Us, right here, right this moment!

Michael

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**michael458** **28 February 2010, 17:39**

I have a little exercise I need some of you to do for me, and give me a hand in something. I am not going to tell you why I need this just now, because I do not wish to influence your conclusions on this, but suffice to say, it is important.

Glenn mentioned the other day about taking a marker, or ink pad, and stamping the flat nose meplat on paper for a better more precise measurement! I thought a grand idea, and still do. I tried it just now with an Ink Pad.

What I want you to do, is the same thing. I want you to use an ink pad or marker, mark the meplat of a particular bullet, stamp it, measure it. Then I want you to turn that bullet around and mark or ink the BASE of the bullet, stamp it and measure it! We know for a fact that a particular 458 caliber bullet should measure .457 in the case of most mono's! Measure your stamped base and see what you come up with, then give me a conclusion on exactly how we should treat that!

Michael

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**416Tanzan** **28 February 2010, 18:06**

sounds like you're going to test some '95% meplat' bullets.

You'll need to seat them almost all of the way into the case. I've done it 20+ years ago with softpoint boattails (plus removed lead tips) and got away with it, but I wouldn't recommend soft points just in case the lead 'flows' or the new rear starts to expand. Imagine a Sierra 250 gr BT 338 going backwards!

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

"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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**michael458** **28 February 2010, 18:17**

Tanzan

Well, that's a thought of course, but not the intent of the exercise I ask. It is very very very interesting however that the number you come up with is 95%?????????

Michael

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**MikeBurke** **28 February 2010, 18:23**

"Solid or Full-Patch bullets. This is a matter of the very utmost importance, yet it's a never-ending source of amazement to me how utterly indifferent the vast majority of men are about the design of the bullets they use. It does not appear to occur to them that they could do anything about it if the bullets didn't behave themselves too well. They appear to be quite satisfied with whatever the makers care to supply and never think that the makers are not themselves hunters and will rarely alter their bullet design unless they receive complaints from men who actually use them."

African Rifle and Cartridges
John Taylor
Page 262

As I am typing this I realized Golden Ear Ring "Twilight Zone" is playing on the IPhone, when the bullet hits the bone.....

**416Tanzan** **28 February 2010, 18:44**

I took 95% out of the air, assuming that the base of many monolithic solids will have a slight bevel. A slight bevel on both sides ought to leave 95+% FN/FB.

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

"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** **28 February 2010, 18:59**

quote:

> Originally posted by Mike70560:
> "Solid or Full-Patch bullets. This is a matter of the very utmost importance, yet it's a never-ending source of amazement to me how utterly indifferent the vast majority of men are about the design of the bullets they use. It does not appear to occur to them that they could do anything about it if the bullets didn't behave themselves too well. They appear to be quite satisfied with whatever the makers care to supply and never think that the makers are not themselves hunters and will rarely alter their bullet design unless they receive complaints from men who actually use them."
>
> African Rifle and Cartridges
> John Taylor
> Page 262
>
> As I am typing this I realized Golden Ear Ring "Twilight Zone" is playing on the IPhone, when the bullet hits the bone.....

Mike

What a wonderful excerpt! It very much illustrates what I had to say yesterday! It seems that in some crowds that is as true today as it was in Taylors time! As you notice I state, "Some Crowds", not to encompass all of us! It also states one of the other matters concerning manufacturers and twist rates concerning terminal penetration of our current crop of solids! I know of no work done in that arena by the manufacturers either?

Thanks, good stuff!

Michael

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**michael458** **28 February 2010, 19:04**

quote:

> Originally posted by 416Tanzan:
> I took 95% out of the air, assuming that the base of many monolithic solids will have a slight bevel. A slight bevel on both sides ought to leave 95+% FN/FB.

95% of actual is what I am getting doing the "Stamp Measurements" on the bases nearly exactly. Knowing that the base is for

instance .457. If this is true, then my measurements on the meplat are also off by 5%, meaning the actual meplat is 5% larger than what I can measure from the stamp, since the stamp is taking the inside of the meplat?

It would be my thought since this seems to be the case with several bullets that what I measure concerning meplat I need to add 5% to that to get actual? This also happens to be very close to what I measure direct from the bullet to the stamping. So this is my question? Did I make myself clear on this? Not sure?
Michael

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**416Tanzan** **28 February 2010, 19:21**

I'm not following something.
How do you "know" that the bases are .457"? Don't the bases have any bevel? The bevel should not be part of the meplat. It sounds like your ink techniques is actually working very accurately.

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

"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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**capoward** **28 February 2010, 19:59**

> quote:
> Originally posted by 416Tanzan:
> Capoward
>
> > quote:
> > So to further my desire for continuing education I have a quick question for the pundits, "Why would a 10" twist rate not be as advantageous for use with a 1.396" length .510 caliber bullet as it is for use with a 1.396" length .308 caliber bullet?"
>
> Because stability is related to bullet shape, not just length. A long thin bullet (308) needs more spin than a long fat bullet (510).

I know that your answer is most likely totally correct but the the brain does a and wonders why it would be bad for the long fat bullet?

> quote:
> Originally posted by 416Tanzan:
> Side request: Could you do a Quickload on 338 WM with 225 TTSX and Reloder 17 powder? (we'll be looking for H4350 for the new loads, but we've got 100 with Rel17 that we may want to take a grain out of their 69grains.)

Ok, here's what I get from QL using 24" barrel:
69grs = 2945fps & 4334ft-lbs @ 72987 psi
68grs = 2908fps & 4225ft-lbs @ 69558 psi
67grs = 2871fps & 4117ft-lbs @ 66307 psi
66grs = 2833fps & 4010ft-lbs @ 63219 psi
65grs = 2795fps & 3904ft-lbs @ 60285 psi

Thanks for the response on the twist rate question.

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

**michael458** **28 February 2010, 20:00**

Tanzan

The bases on the barnes solids I have I can't see a bevel? Maybe there, but I am having some issues with things like that, even with my glasses on! I stamped some more since posting, and I think I am getting closer to correct, but honestly something that fine is giving me some issues with the eyes, getting my glasses and a loop has helped some.

Some of you guys with sharper eyes please do some stamping and measuring this week to give a check on mine!

I think too many big bore shots each week is knocking my eyes out of alignment, need to be adjusted I think!

Michael

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**capoward** **28 February 2010, 20:23**

Glenn,

You might have been thinking of the standard NATO 5.56mm cartridge performance issues with the US current issue short barrel M16A4/M4A1 carbine. Here's a quote from Wiki regarding the cartridge:

> quote:
>
> There has been much criticism of the poor performance of the bullet on target, especially the first-shot kill rate when using firearms that don't achieve the velocity to cause fragmentation. This wounding problem has been cited in incidents beginning in the first Gulf war, Somalia, and ending in the current conflicts in Iraq and Afghanistan. In recent lab testing of M855, it has been shown that the bullets do not fragment reliably or consistently from round-to-round, displaying widely variable performance. In several cases, yawing did not begin until 7"-10" of penetration. This was with all rounds coming from the same manufacturer. This lack of wounding capacity typically becomes an issue at increasingly shorter ranges (beyond 45m when using an M4 or 140m when using an M16 w/ a 20" barrel) or when penetrating heavy clothing, but this problem is compounded in shorter-barreled weapons. The 14.5-inch (37 cm) barrel of the U.S. military's M4 carbine generates considerably less initial velocity than its big brother, the 20" barreled M16 and terminal performance can be a particular problem with the M4. [http://en.wikipedia.org/wiki/5.56x45mm_NATO ]

I believe there have also been bullet stability issues with the standard M4A1 carbine when using the Mk262 cartridge with its longer bullet:

> quote:
>
> Recently, advances have been made in 5.56mm ammunition. The US military has adopted for limited issue a 77-grain (5.0 g) "Match" bullet, type classified as the Mk 262. The heavy, lightly constructed bullet fragments more violently at short range and also has a longer fragmentation range. Originally designed for use in the Mk 12 SPR [1:7" twist rate barrel], the ammunition has found favor with special forces units who were seeking a more effective cartridge to fire from their M4A1 carbines.

Maybe they'll get it together one of these days or perhaps finally move to a better cartridge.

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

**michael458** **28 February 2010, 20:26**

Dwright

You are a damn troublemaker! I see your post over on 470 vs 500!

M

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**RIP** **28 February 2010, 20:31**

Doc M,
Yep, you just need glasses! Everyone your age has to admit to presbyopia.
Your eyeball lens is getting stiff, just not as focus-able as it used to be.
Admit it! You are not a spring chicken!
You are an old rooster!

The manufacturing usually puts a small radius on the sharp edge of the nose meplat or base of the bullet.
Less prone to nicks, dents, or irregularity from handling along the way, than a knife-edged sharpness would be.

I got out the magnifiers and tried measuring the nose meplat of that .416/400gr Speer AGS,
both directly and with the ink pad.
0.212" for the flat, not counting the radius of the edge.

It has a radius on the nose ogive that is like a compound ogive: starts rolling over to meplat from about 0.245" to .212" diameters.

The shank is .416" true.
The radiused "base meplat" is only about .350" diameter on the flat, with a much larger radius on the edge bevel of the base than at the nose.

I suppose one should measure only the flat of the nose meplat and exclude the radiused, rounded edge.

Glenn's method with your ink pad refinement is reliable and easy if you don't smear or smudge.
Straight pressure down with the inked bullet on a flat pad of paper, to leave the impression.
I still have to use magnifiers to measure that.

Now my "old rooster" eyes are smarting from the strain of focusing so close.
I gotta go rest them some.

**michael458** **28 February 2010, 20:40**

RIP

Yep, but even with my glasses I am having some problems! I think I got the stamp thing down but will practice my measure technics tomorrow. I needed some guidance on this one, and I think we will most likely agree to measure the flats from the stamp and use that number. I think that will bring my previous percentages of meplat down a few points from what I thought, on SOME of the bullets we have tested. Not sure, and as I measure what I have on hand I more than welcome the rest of you to check behind me if you have that same bullet. God knows I don't trust my measurements (now I do admit I tell my lovely South African wife a bit different when it comes to inches, you know she don't know much about our english system- )

It also seems it was not that long ago I was the young kid on the block, what happened?

Michael

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**capoward** **28 February 2010, 20:45**

> quote:
>
> Originally posted by Mafunyane:
> Just want to ask you: Is to fast a twist bad and if so, why?
>
> Can a bullet be over stabilised? or will it only raise the pressure.

Mafunyane yes a bullet can be overstabilized from to fast of a twist rate for the length/diameter of the bullet. I have no methodology to compute what that "point" would be but I do recollect reading this from a ballistics study many years ago.

Michael,

I have a potential partial solution to the "to fast twist rate" question relative to big bore cartridges. I know from our conversations that David fires a 50 BMG in long range target shooting. Not sure if JD has something similar or not.

Could you ask if one of them uses a 1:8" to 1:10" twist rate barrel designed to use to long VLD target bullets such as David's long 2.620" or 2.680" .510" caliber bore rider target bullets?

If so ask them to fire a couple of David's 1.130" 510-400 .510 Shredder Tip Solid at close range…say at 20-25yds…to determine whether the short-fat bullets will keyhole in the target? If they have the ability to back the target with a bullet box would you ask them to do that also so we can determine the straight-line stability of this short-fat bullet when fired from a "really fast" twist rate barrel for the caliber?

Thanks for your consideration.

*Edit: Just not enough coffee in the vains yet to keep up with you guys.*

> *quote:*
>
> *Originally posted by I Bin Therbefor:*
> *I've researching this in published papers as best I can. Current state of my knowledge says as long as the twist rate doesn't cause the bullet to come apart, twist away.*

*Thank you IBT for that cogent and timely comment!*

*Michael, I still ask that you pose the questions to JD and David as there are some readers on AR that will not believe anything without seeing a picture of the results.*

*Oh yes...could you ask them to photograph and document the results also?*

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

**michael458** **28 February 2010, 20:46**

Oh yes, want to mention our very own Mike is over at the "doubles" and is sorting them out proper on the 470/500 thread with some real bullet knowledge!

We hope to also welcome Maxload to our thread here, he originated that thread I had a fit over yesterday and is a new comer looking for answers, I don't think he got much of an answer over there, but I hope he will soon bring his questions here. So Max, if you are looking, jump right in buddy! Also pay much attention to what Mike has to say, he has been testing the 470 in a very serious manner, his results speak with IRON Clad Conclusions!

I dare not go over there, I would be burned at the stake for heresy! HEH!!!!!!!!

Michael

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

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**michael458** **28 February 2010, 20:51**

quote:

> Originally posted by capoward:
>
> quote:
>
> > Originally posted by Mafunyane:
> > Just want to ask you: Is to fast a twist bad and if so, why?
> >
> > Can a bullet be over stabilised? or will it only raise the pressure.
>
> Mafunyane yes a bullet can be overstabilized from to fast of a twist rate for the length/diameter of the bullet. I have no methodology to compute what that "point" would be but I do recollect reading this from a ballistics study many years ago.
>
> Michael,
>
> I have a potential partial solution to the "to fast twist rate" question relative to big bore cartridges. I know from our conversations that David fires a 50 BMG in long range target shooting. Not sure if JD has something similar or not.
>
> Could you ask if one of them uses a 1:8" to 1:10" twist rate barrel designed to use to long VLD target bullets such as David's long 2.620" or 2.680" .510" caliber bore rider target bullets?
>
> If so ask them to fire a couple of David's 1.130" 510-400 .510 Shredder Tip Solid at close range…say at 20-25yds…to determine whether the short-fat bullets will keyhole in the target? If they have the ability to back the target with a bullet box would you ask them to do that also so we can determine the straight-line stability of this short-fat bullet when fired from a "really fast" twist rate barrel for the caliber?
>
> Thanks for your consideration.

Jim

Both RIP and I recently talked to Brian about something similar, VLD's in the 458 B&M, and for the 458 and I think other Whispers, I think 510 too, Brian said they used 1:10.

But I will ask this week and see what I can find out, good point by the way.

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** **28 February 2010, 22:00**

Jim,
2.75" is not very long for a 50BMG bullet, about like a Hornady A-Max, and that works fine in a 1:15" twist at 2700 fps.

Of course the 500 and 510 Whispers use the fast twist for the long bullets at subsonic velocity so as to get the revs at such slow MV, close to 1000 fps only.

I have three .510" rifles with 1:10" twist McGowen barrels:
500 A2
.510 JAB
500 Mbogo
And one rifle with a 1:9" twist Pac-Nor barrel:
500 Mbogo

Even though SSK refuses to use McGowen barrels, I have had some tiny little one-hole groups at 100 yards with 1:10" twist and 705-grain AAA Harlow target bullets in the 500A2-type rifles at about 2150 fps.
At that velocity, 1:12" would give similar revs/sec as the 50 BMG velocities with 1:15" twist, however, and might be better for 1000 yard shooting with 500A2 and BMG bullets, due to the tractability issues and alignment with trajectory.

I can verify that the .510/450-grain GSC HV, a NONCON if there ever was a NONCON, shoots beautifully at +2800 fps, grouping well at 50 yards, in my limited initial chronographing with 500 Mbogo and 1:10" twist.

I posted some targets related to those groups once, will see if I can still find them ...

You cannot overstabilize a well made (concentricity of shape and mass) monometal hollowpoint or FN solid, except for accuracy purposes at 1000 yards, where the bullet will arrive with nose pointing above the trajectory instead of following it.

Weak, thin-jacketed, cup&core, small bore, varmint-grenade-type bullets might vaporize in mid air if revved too fast by high velocity and faster twists. Not an issue with a tough big bore bullet.

And, again, I have a reference somewhere, about artillery testing of 1:15" versus 1:7.5" twist in really big bore "guns."
Only 0.5 percent difference in pressure and velocity was noted with that 100 percent increase in twist.

**DWright** **28 February 2010, 22:19**

quote:

> Originally posted by michael458:
> Dwright
>
> You are a damn troublemaker! I see your post over on 470 vs 500!
>
> M

Who, me. . . ? Naaaaahhhh.

http://www.mazamasportinggoods.com

**DWright** **28 February 2010, 22:28**

Besides Michael, I'm pretty much ignored by most the guys anyway, so no need to dispare.
Must say I did like your comments regarding same. You are spot on, and I laughed my ars off!

Your posts are quite refreshing, and about the only ones with any substance to back them up. I picture the DBL guys to be sitting in there leather chairs, sipping Brandy from snifter, smoking fat cigars, and recitting some article they read some where, at some time, by somebody else. Absolutely cracks me up.
I've had the opertunity to take quite a bit of game, and have come to some pretty different conclusions then those that read too much.
Cheers Michael, and keep up the great work!

http://www.mazamasportinggoods.com

**RIP** **28 February 2010, 22:37**

10" twist works well for stubbie 450-grainers at +2800 fps MV
and +2.7"-long 750-grainers at + 2100 fps MV, that are still supersonic at 1000 yards, with BC of 1.050 (Hornady A-Max)

Above is 1:10" twist with 450-grain/.510cal HV.
No indication of keyholing nor exploding-in-air bullets, me thinks.
2.5X scope at 50 yards was just to get initial handle on loading for High Velocity, with 115 grains of Hodgdon benchmark.
Velocities 5 yards from muzzle, 3 shots averaged 2835.3 fps.
Bullet length is 1.275".
Old rooster eyes.

Below, it only took 4 shots to zero, then 3 more shots to check zero at 100 yards,
with 5X Leupold at 100 yards with best Target bullet,
AAA Harlow 705-grainer:


Backside of same target:


16X Sightron scope, shot from a sitting position in cow pasture with a long bipod, and a lull in the wind, too windy for good group.


**RIP** **28 February 2010, 23:02**

I really think the fear of fast twist is over blown.

**jwp475** **28 February 2010, 23:15**

quote:

> Originally posted by RIP:
> I really think the fear of fast twist is over blown.

+1.....

---

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

**RIP** **28 February 2010, 23:34**

I am looking to the .458 B&M as a scaled-down version of the 500 Mbogo.
.458 Baby-Mbogo-Blaster-Master
It will be a game killer with 350 to 450-grain NonCon and Conventional bullets,
and a lot of fun to experiment with using fillers for .458 Whisper type loads, subsonic.
The same long, heavy-for-caliber whisper type bullets could also be shot at 1000 fps louder for whaling rather than whispering.
For such versatility, fast twist is mandatory.
No fears of fast twist here!
Save the slow twist barrels for cast lead boolits and the delicate, mach 3 varmint bullets, eh?

**capoward** **01 March 2010, 01:57**

quote:

> Originally posted by RIP:
> You cannot overstabilize a well made (concentricity of shape and mass) monometal hollowpoint or FN solid, except for accuracy purposes at 1000 yards, where the bullet will arrive with nose pointing above the trajectory instead of following it.
>
> Weak, thin-jacketed, cup&core, small bore, varmint-grenade-type bullets might vaporize in mid air if revved too fast by high velocity and faster twists. Not an issue with a tough big bore bullet.
>
> And, again, I have a reference somewhere, about artillery testing of 1:15" versus 1:7.5" twist in really big bore "guns." Only 0.5 percent difference in pressure and velocity was noted with that 100 percent increase in twist.

RIP, Thank you...its nice to know the brain cells haven't completely forsaken me.

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

**capoward** **01 March 2010, 02:01**

quote:

> Originally posted by jwp475:
>
> quote:
>
> > Originally posted by RIP:
> > I really think the fear of fast twist is over blown.
>
> +1.....

+2 With monometals it is absolutely overblown.

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

**RIP** **01 March 2010, 02:19**

Just thinking,
slow twist is dead,
round nose is dead,
cup&core is dead,
and
low velocity is dead (use as much as you and the bullet can handle).
All that remains is to verify the meplat size for the FN solid.
Isolate the single variable, as best you can, and test it as best you can.
Tough to do.

Same caliber and same velocity are easy enough for practical purposes,
but different meplat sizes for same weight will change the length of the bullet too.
Weight or length or both will have to vary a little around the averages for the various meplat sizes Doc M has requested.

That is a big undertaking.

78% is best for FN handgun bullets at velocities under 2000 fps, according to jwp475's meta analysis.

A 51% meplat works well when combined with high SD and near 2400 fps velocity, with short for weight AGS .416/400gr that is well stabilized by 1:14" twist. More variables there than simply meplat size, when comparing that apple to other fruit.

Meplat-size single-variable isolation and testing ... only a Master Blaster such as Doc M could undertake such a feat.

**boom stick** **01 March 2010, 02:27**

It would seem that you need at least 50% and the more you increase the meplat size all things being equal all you do is trade depth of penetration to increased trauma units ( I just made that up =] ) per foot.

Now I need to come up with the flat nose meplat trauma units formula. Bass ackwards.

quote:

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> Just thinking,
> slow twist is dead,
> round nose is dead,
> cup&core is dead,
> and

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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)

**Macifej** **01 March 2010, 02:32**

Hmmmm ... yes and then there's the little detail of flight characteristics as altered by meplat diamter/nose angle.

What goes in the box t'aint no accident ...

**someoldguy** **01 March 2010, 02:40**

quote:

78% is best for FN handgun bullets at velocities under 2000 fps, according to jwp475's meta analysis.

A 51% meplat works well when combined with high SD and near 2400 fps velocity, with short for weight AGS .416/400gr that is well stabilized by 1:14" twist. More variables there than simply meplat size, when comparing that apple to other fruit.

Meplat-size single-variable isolation and testing ... only a Master Blaster such as Doc M could undertake such a feat.

Yep, the doctor is in da house!

About handgun bullets, I've made this observation some time back. It's probably the same as jwp's. The meplat is generally caliber minus 0.13" for big bore calibers .41 and up, and caliber minus 0.09" for smaller calibers. (With a some exceptions probably.) Rifle bullets seem to tolerate smaller meplats. Round nosed bullets generally suck.

I think somebody (I don't remember who) asked me a question earlier and I forget to respond. I don't remember the question, but I just remember that I didn't know the answer. So the answer to the question is "I dunno."
Sorry I forgot to respond.

_____

Glenn

**capoward** **01 March 2010, 03:29**

quote:

Originally posted by RIP:
Same caliber and same velocity are easy enough for practical purposes,
but different meplat sizes for same weight will change the length of the bullet too.
Weight or length or both will have to vary a little around the averages for the various meplat sizes Doc M has requested.

Actually from handling Michael's .500 caliber SST FN Solid bullets I believe that if he can negotiate things with David correctly, that David can utilize this style bullet to cut a full sequence of bullets with the test meplat [see I finally spelled it correctly!] dimensions all cut to identical bullet length and weight. Bullet bases would be identically cut. The length to Shank/Ogive Intersection would

vary for each meplat diameter in order to maintain overall length. The bullet driving bands would be adjusted by adding width and/or splitting them with additional grooves to add or reduce weight to offset the nose variances and to maintain proper bullet balance. Doc M loads up and we get to enjoy the results!

Has it been decided whether more than one twist rate would be used in the test? How about caliber?

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