

This topic can be found at:

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

michael458

06 October 2010, 04:33

Terminal Bullet Performance

Mike

Just excellent, mighty fine buffalo! Mighty fine!

Doc 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"

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MikeBurke

06 October 2010, 04:43

In 15 days of hunting, sighting in at two different concessions, and shooting 16 different animals with three rifles, Katherine and I fired 64 rounds. Most hunters leave ammo for their PH, it was a good thing Neil shot a 470. On the third and final buffalo follow up I had one NF solid and one Woodleigh in a factory Federal round in the rifle. My ammo belt had Federal and some old Kynoch rounds probably loaded with cordite!!! I was glad the buffalo died without too big a gun fight in the end.

capoward

06 October 2010, 04:44

Very nice buffalo Mike. Your's and and Katherine's smiles pretty well sum up the hunt. Kudos to you both on your animals.

Jim 

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

srose

06 October 2010, 05:53

Mighty fine buffalo!!!!Full of holes too!

465H&H

06 October 2010, 08:17

Mike,

I would say that you have a lot more than a little bragging rights!

465H&H

500N

06 October 2010, 10:36

quote:

Originally posted by srose:

If you don't want a pass thru on herd animals why wouldn't you want a good expanding bullet over a tumble solid. That RN solid might just do crazy things and penetrate straight when you don't want it to. If you have to put a follow up shot at a running away animal then you would want the most penetration you can get. I'm going to stick with a big flat nose deep penetrating solid and if I kill something behind what I'm shooting at I'll pay the fine. If I worried about pass thru it will be a good soft in the other barrel.

Sam

"That RN solid might just do crazy things and penetrate straight when you don't want it to."

Penetrate straight when you don't want it too ??????

When wouldn't you want it to.

I've fired a few RN Solids into the ends of Buf and they do the job.

But now, instead of going for the texas heart shot with a solid where even though you might end to end it, you can still miss the vitals. I prefer a RN SN and go for the hip / hip joint. Seems to pull them up and then you have time to put in a finisher whichever way but at least it has stopped running away !!! LOL

Going for the hip also means you don't have to switch bullets or go to the bottom

of the mag to get to the solid.

Just my HO.

srose

06 October 2010, 14:47

"When wouldn't you want it to."

Thats is exactly my point! I want a solid to keep going and going.

Sam

michael458

06 October 2010, 16:17

quote:

Originally posted by 500N:

Penetrate straight when you don't want it too ??????

When wouldn't you want it to.

500N

What Sam is talking about is that any RN solid cannot be predicted as to what it might do. YES--We all know they have worked for the last 100 + years. However, the nose design is what it is, and it is not stable, and cannot stabilize itself during terminals. I have shot RN Solids into animals too, and have been successful "MOST" of the time, but I have seen them turn and go off course too! Not talking Woodleigh specifically, any RN profile, and some are worse than others. The deal is, they cannot be predicted, as they are not stable. More stable in animal tissue as there is less solid resistance.

So, with them being unstable one might go straight, might veer, might tumble, might do anything.

M

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

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michael458

06 October 2010, 16:33

This is just one example of many. I consistently hear the same old song from the RN Crowd--I have shot a 1000 of this, a 1000 of that, and I have NEVER seen one veer or even heard of one doing so.

I have seen RN veer off course in animal tissue, personally, myself. I watched one of the first solids we did for the .500s enter an eland from the rear, and exit the top of his back, hit a tree limb knocking the bark off of it! Could not believe my eyes, same eland took another one and it turned 90 degrees and went out the side of the rib cage, from the rear. It does happen.

Here is an example, I have not included names, dates or other information so as to protect the innocent!

quote:

What struck me was me shooting at a fleeing buff with the 500 Jeffrey and a client shooting the same buffalo with the 9.3x74R and 300 grain Barnes solids.

It was about 100 yards going straight away fast. I hit the left ham and he hit the right and both hits were at about the same place.

My solid did not reach the chest cavity. It swerved and went up into the back. His solid went through to the front of the chest and killed the buff.

quote:

quote:

[Redacted]

It was a Woodleigh 535 grain solid and it did not distort. The boys cut it out and I looked at it. It may have veered upwards into the back and got stopped by the rubbery skin.

NAME EDITED, who hunts for Miombo, has a constant problem with Woodleigh solids veering off course in his 470s. I think it must be the shape of the nose. But on the whole I like them.

quote:

[Redacted]

Like I said, and always have, the potential is there to fail, and on occasion they do. Not all the time, not every time, but on occasion. It's an outdated nose profile that has seen it's time come, and now it's time for it to go. Big Flat Nose Brothers are here to stay, probably for the next 25 yrs or so at least, then there will be something better, higher tech, and I will be the one that says:

I been shooting these flat nose bullets for 25 yrs, and I never had a problem with them!

HEH HEH HEH



Michael

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michael458

07 October 2010, 02:55

Gentlemen and Ladies if any! Sam and I have finished the first wave of test work I had promised. What we have discovered is outstanding to say the least. There is so much data that must be assimilated that it may take a few days to get through it. We have even discussed if this information should be released to the public, or in public, that is how dangerous the discovery we have made is. It will be extremely revealing, and dangerous information. If you think for a second that the discovery of alien life would be a big deal, you have seen "nothing" yet! This information may change double rifle history forever. Nothing will be the same after this is released. Everything you thought, everything you believed is going to change.

The ramifications of this information may well reach into other areas of shooting, beyond double rifles, we just don't know yet where or what this may lead to?

I myself am still trying to get my mind wrapped around this astounding event. In fact, this is so important, that not only will this be posted here, it must be posted on the double rifle forum as well, but be that as it may, it will be posted here first and foremost!

I am working overtime to get this to you, give me some time.

Michael

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capoward

07 October 2010, 03:28

You have us waiting  with abated breath!

Jim 

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

John Wayne

srose

07 October 2010, 03:43

I'm still shaking and I'm not sure if its from all the information we got today or all the heavy recoil I've been through in 4 hours of

shooting a big double. My only thought is WOW!

Sam

capoward

07 October 2010, 04:24



Jim

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

John Wayne

boom stick

07 October 2010, 04:49

Sorry I have been a bit absent. Been traveling. Curious about your big discovery Sam and Michael. I'm jealous about the fun you are having!!!!

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

07 October 2010, 05:03

Still working on things, but thought I would outline the test we conducted thus far.

First, we are leaving our terminal performance tests, and moving in a slightly different direction, but very related to the science we have been working on, and another part of what we do to attempt a better design.

While this test we believe is of extreme importance to those with double rifles, it will also have ramifications in other areas, as you will learn.

Many of you know that Sam and I have been working on what we believe is an excellent nose profile for deep and straight line penetration, the BBW #13. It has proven itself over several different calibers now, in several different weights. Just this week you have seen we tested the BBW #13 done by CEB in Copper, penetration and performance was great.

Remember the two bands? We all think that this 2 band design is a good design for double rifles, we think it puts less stress on the barrels. Sam is a double rifle shooter. I am not. I don't even own one. Before Sam, I had never even shot one. So I can lend no expertise in this arena. Not yet anyway!

Now how in the world would it be possible to find out how much stress is put on a barrel by the bullet? Well it just so happens that I do run pressures here if need be. I have a pressure trace system, and it has been very reliable, giving good information if everything is plugged in correctly. It can be a wonderful tool when used properly. It works with strain gages that are attached to the barrel, and measures the amount of stretch in the barrel, converts that to PSI. Is it 100% on the spot right? Well, can't answer that, but I believe that it is damn close as long as the strain gages are attached properly. Ok, so we can get an idea of what our pressure is right? So how is that going to help us with trying to determine what bullet is putting more or less strain on the barrel? To begin with, we must have a proper pressure reading to correlate with other data, and in this case we did learn something truly amazing, that is not only pertinent information for you double guys, but also for us normal folks with bolts, levers, and even singles! You will see this once I get this up and running.

Well still, that does not show us how much strain is put on the barrel by an individual bullet, or design does it? No, it don't! Sam and I figured we would try something, we moved back from the muzzle of one of his 470 Nitro double rifles 5 inches and placed a strain gage on the barrel. It was our hope that this strain gage would measure and give us a viable number for comparison of different bullets. While this number would be given in PSI, whether or not that is actual pressure or not, I really can't say, and I am not sure it matters whether this number is PSI, or just a number we can use to compare the strain on the barrel from the passage of different bullets past that point at which the strain gage is attached. We had no idea of whether this might work, or not. We both thought it a pretty good idea, and worth the effort to find out.

Just so happens, every part of this test fell into place today, our efforts paid out, and paid out big time. The strain gage did it's job, on both ends of the rifle, we were able to test first one, and then the other and have viable numbers in which to compare.

Sam did the loading of everything today. It's his rifle, 470 Nitro Express. He used the same exact load/powder/primer and new Bell brass for every test. The only difference was the bullet, all had the same powder charge. All were very consistent. All were chronographed in addition to pressure tests, and strain tests on the barrel.

It looked something like this today;



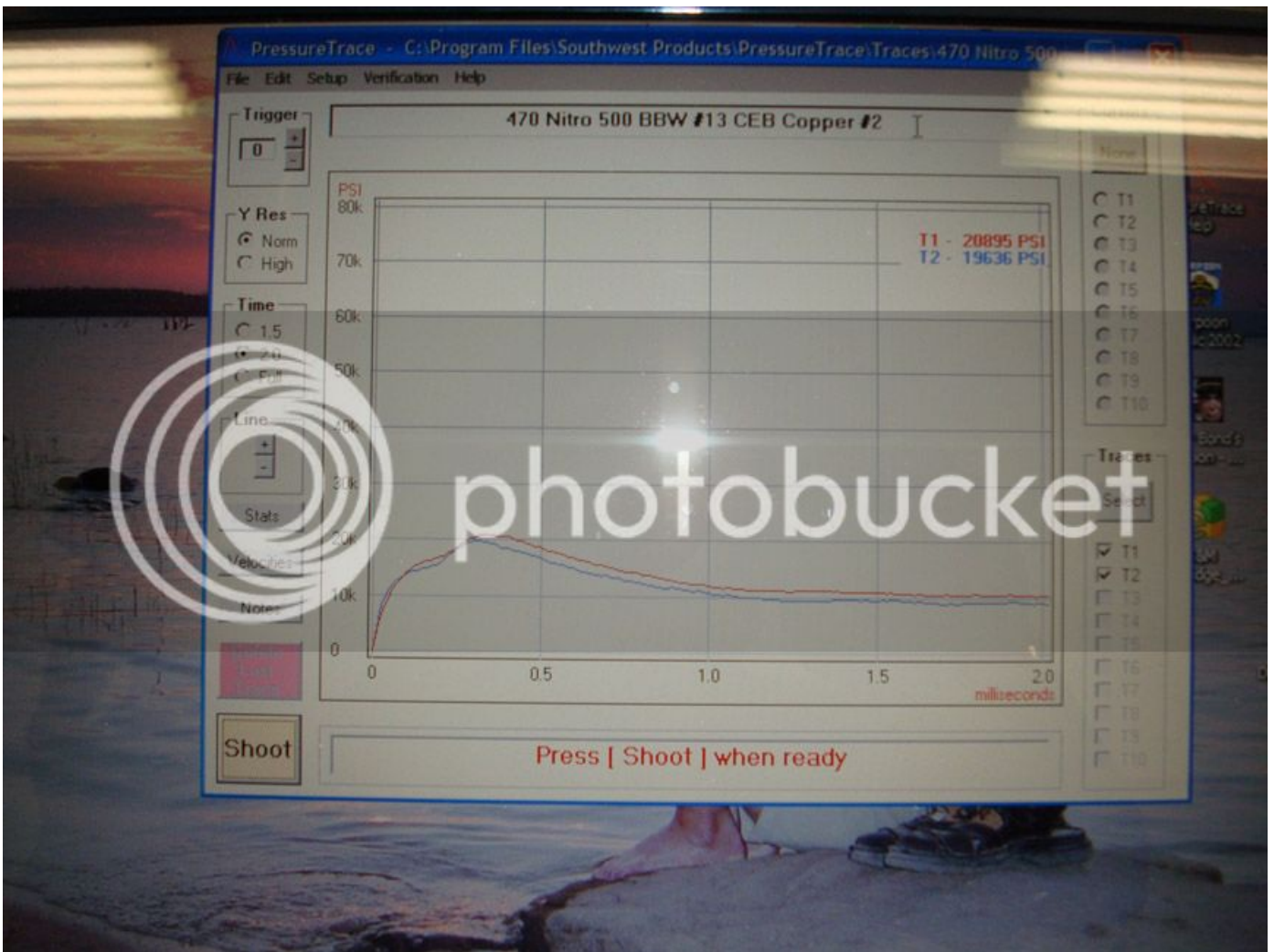






No People, the strain gages are not attached and kept in place with duct tape and masking tape! That is there to keep the connection safe and to keep the wires from being jiggled around and become loose connections, that is all. I wonder if that tape is going to peel the bluing off that expensive double rifle? Oh well, it's Sam's anyway, and it's in the name of science, and for the good of our fellow shooters, sacrifices have to be made!

This is an on screen shot of some of the work.



Information was recorded as two readings.

All #1 Readings were actual Pressure readings.

All #2 Readings were barrel strain readings.

I hope to have things up and running, and possibly post the data tomorrow for you to look at.

Sam, if I missed anything at all, please feel free to add or correct if need be!

Stay tuned boys and girls, the best is coming!

Michael (Doc M)

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

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RIP

07 October 2010, 07:01



capoward

07 October 2010, 09:43



Jim

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

doc M

you are not posting fast enough 😊

peter

□

<http://www.facebook.com/pages/...ifile/146722612017963>

Good Morning Everyone! I trust this finds all of you doing well!

Well, here goes. First up, on this post, I am going to give you a list of the data as recorded. Then later, I will post the actual reports. This way, you can see the data in a list, you will not have to figure out the report and be looking. I am sure some of the numbers on the posted report might be difficult to read, as I converted from Pdf to Jpeg so I can upload them, some clarity might be lost. No need to cause eye strain eh?

We used Sam's 470 Nitro Double rifle, strain gage on the rear measuring what is supposed to be actual pressure. These are listed on the data as #1 Pressure data. Now is this 100% reliable, as discussed it is good data, but as with anything it requires a lot to back it up. If everything is right, I think it is very close data and good. I have tested this system for many years now on lot's of different rifles and cartridges and it seems to work out very close with tested factory ammo, my own case measurements and estimates of pressure. I don't claim it's 100% fact, just a great tool to work with is all.

#2 is what I would call barrel strain as the bullet passes the point at which the strain gage is attached. You will see it reads out in PSI, that is the program and what it is supposed to do. Now is that PSI? I can't tell you that, I can tell you that it is a viable number in which to compare these different bullets as they pass that point, and nothing more. Some bullets do put more strain on the barrel than others, this is a fact now, not a theory. As you will see. Neither Sam nor I propose that any bullet is safe in a double rifle over another, this is something you can make your own mind about.

Remember this also, neither Sam nor I are in the bullet business either! We are not here to sell you a bullet, I don't care one way or the other what you do, or decide not to do. This information is for YOU to use as you see fit. If it is useful to you, well and good, if not, go about your damn business. I have time, energy, and money invested to help you, as does Sam, and there is no return on investment for us. Neither of us are making any claims about anything, the data stands on it's own. I don't even own a double rifle, and I don't intend on owning one, just not my thing, so I have nothing to gain, nor nothing to loose either way. Nor does Sam. I have a damn job, and I am not looking for another. So here it is, like it, don't like it, believe it, don't believe it, it makes little difference to me, this is for you and the double rifle people. Now I may very well get something out of this, I might take this information to my bolt guns and see if I can lower pressures and increase performance, but that is it, and of course I increase my knowledge of such things far beyond where man has gone before! This is a disclaimer HEH HEH!

All were loaded the same, 106 grs of IMR 4831 with every load, Federal 215 primers every load, New brass every load to keep everything the same as much as possible. The only difference is the original Kynoch loads that were with Cordite. All else is the same.

Two shots were taken for both #1 and #2 readings--Except for the Kynoch, which was 1 each. We had extra rounds available in case of some sort of anomaly, only one of those were used, and it was my fault, I did not have the computer set to the proper settings. Other than that, there were no anomalies, and everything corresponded with all other factors.

For all you Woodleigh Lovers!

1. 500 Woodleigh FMJ #1 Pressure---Average Pressure 44899 PSI--Velocity 2110 fps

#2 Barrel Strain--23667

2. 500 Woodleigh Soft Point #1 Pressure---Average Pressure 36892 PSI--Velocity 2104 fps

#2 Barrel Strain--21903

3. 500 Barnes Banded Solid #1 Pressure---Average Pressure 46738 PSI--Velocity 2169 fps

#2 Barrel Strain--22848

4. 500 Barnes Original Copper Tube Solid/FMJ #1 Pressure---Average Pressure 43214 PSI--Velocity 2126 fps

#2 Barrel Strain--21525

5. 500 Hornady DGS #1 Pressure---Average Pressure 44147 PSI--Velocity 2104 fps

#2 Barrel Strain--22533

6. 500 Kynoch Original Cordite Load #1 Pressure---45909 PSI--Velocity 2084 fps

#2 Barrel Strain--18250

7. 466 Brass BBW #13 #1 Pressure---Average Pressure 39172 PSI--Velocity 2141 fps

#2 Barrel Strain--20013

8. 500 Copper BBW #13 CEB #1 Pressure---Average Pressure 30029 PSI--Velocity 2142 FPS

#2 Barrel Strain--20265

Next I will try and post some of the actual reports.

Michael (Doc M)

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

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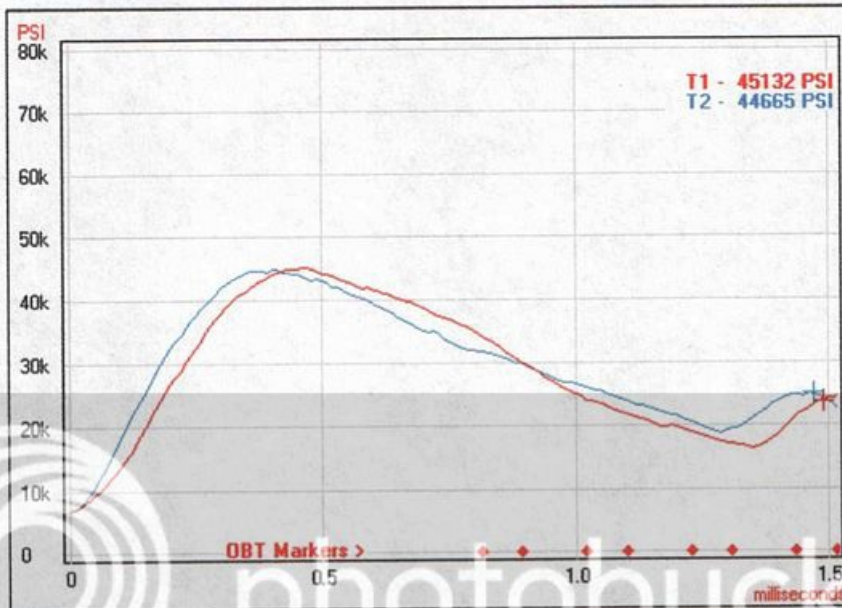
michael458

07 October 2010, 15:57

PressureTrace Report
for
470 Nitro 500 Woodleigh FMJ #1 Pressure

10/6/2010 9:53:44 AM
C:\Program Files\Southwest Products\PressureTrace\Traces\470 Nitro 500 Wood FMJ #1.ptc

Temperature : 59 °F Pressure : 29.53 in Hg Humidity : 78 %



Trace	FPS	PSI	**Area	Rise	*Eff%	Ave	FPS	PSI	**Area	Rise	
T1	2101	45132	4259K	190	95.36		2110	44899	4320K	170	
T2	2120	44665	4380K	150	100.00		SD	13	329	85K	28
							95% Prob	170	4191	1091K	359
							Hi	2120	45132	4380K	190
							Low	2101	44665	4259K	150
							ES	19	466	121K	40

** Area is a indication of total energy delivered.
* Primarily for comparing loads with varying powder charge.
See the documentation for more information.

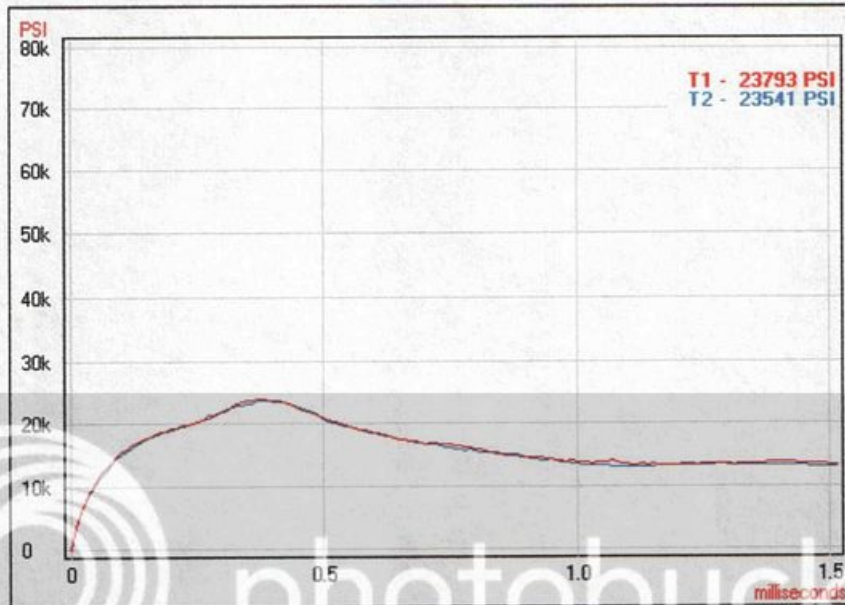
470 Nitro Express
Barrel OD: 1 in Case Wall: 0.026 in Barrel Length: 24 in Corr. Factor: 0
Bullet Diameter: 0.474 in Chamber ID: 0.555 in Case OAL: 3.25 in Gage Factor: 2.1

Trace Notes

PressureTrace Report
for
470 Nitro 500 Woodleigh FMJ #2 Barrel

10/6/2010 9:44:10 AM
C:\Program Files\Southwest Products\PressureTrace\Traces\470 Nitro 500 Wood FMJ #2.ptc

Temperature : 59 °F Pressure : 29.53 in Hg Humidity : 78 %



Trace	FPS	PSI	**Area	Rise	*Eff%	FPS	PSI	**Area	Rise
T1	0	23793		140		Ave	0	23667	135
T2	0	23541		130		SD	0	178	7
						95% Prob	0	2263	89
						HI	0	23793	140
						Low	0	23541	130
						ES	0	251	10

** Area is a indication of total energy delivered.
* Primarily for comparing loads with varying powder charge.
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470 Nitro Barrel #2
Barrel OD: 0.729 in
Bullet Diameter: 0.474 in

Case Wall: 0.026 in
Chamber ID: 0.474 in

Barrel Length: 24 in
Case OAL: 3.25 in

Corr. Factor: 0
Gage Factor: 2.1

Trace Notes

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

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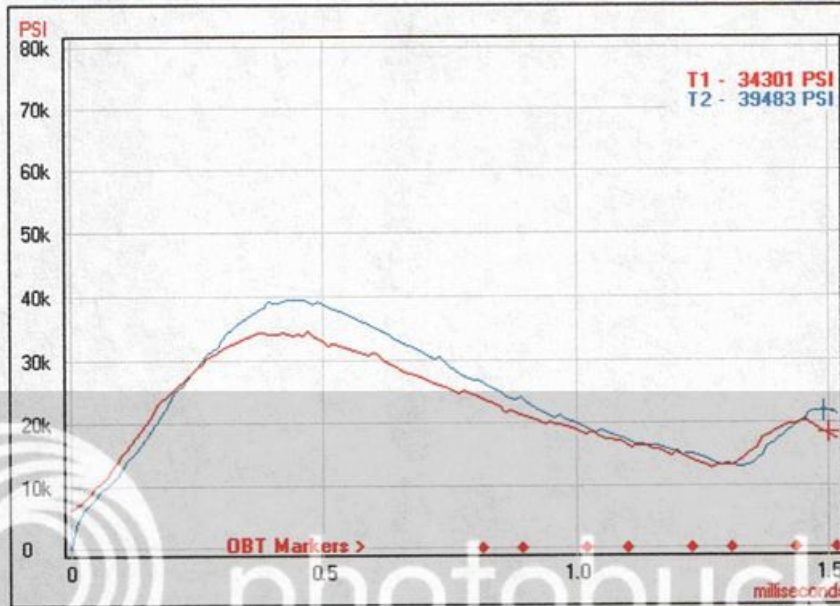
PressureTrace Report
for

470 Nitro 500 Woodleigh SP 106/IMR 4831 Pressure Reading #1

10/6/2010 8:30:43 AM

C:\Program Files\Southwest Products\PressureTrace\Traces\470 Nitro 500 Wood SP #1.ptc

Temperature : 59 °F Pressure : 29.53 in Hg Humidity : 78 %



Trace	FPS	PSI	**Area	Rise	* Eff%	Ave	FPS	PSI	**Area	Rise
T1	2098	34301	3367K	180	100.00		2104	36892	3465K	180
T2	2110	39483	3564K	180	92.50		8	3664	139K	0
						95% Prob	107	46560	1774K	0
						HI	2110	39483	3564K	180
						Low	2098	34301	3367K	180
						ES	12	5182	197K	0

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470 Nitro Express

Barrel OD: 1 in Case Wall: 0.026 in Barrel Length: 24 in Corr. Factor: 0
Bullet Diameter: 0.474 in Chamber ID: 0.555 in Case OAL: 3.25 in Gage Factor: 2.1

Trace Notes

PressureTrace Report
for
470 Nitro 500 Woodleigh SP 106/IMR 4831 #2 Barrel

10/6/2010 9:39:50 AM
C:\Program Files\Southwest Products\PressureTrace\Traces\470 Nitro 500 Wood SP #2.ptc

Temperature : 59 °F Pressure : 29.53 in Hg Humidity : 78 %



Trace	FPS	PSI	**Area	Rise	* Eff%	FPS	PSI	**Area	Rise
T1	0	21903		110		Ave	0	21903	110
						SD	0	0	0
						95% Prob	0	0	0
						Hi	0	21903	110
						Low	0	21903	110
						ES	0	0	0

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470 Nitro Barrel #2
Barrel OD: 0.729 in
Bullet Diameter: 0.474 in

Case Wall: 0.026 in Barrel Length: 24 in Corr. Factor: 0
Chamber ID: 0.474 in Case OAL: 3.25 in Gage Factor: 2.1

Trace Notes

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

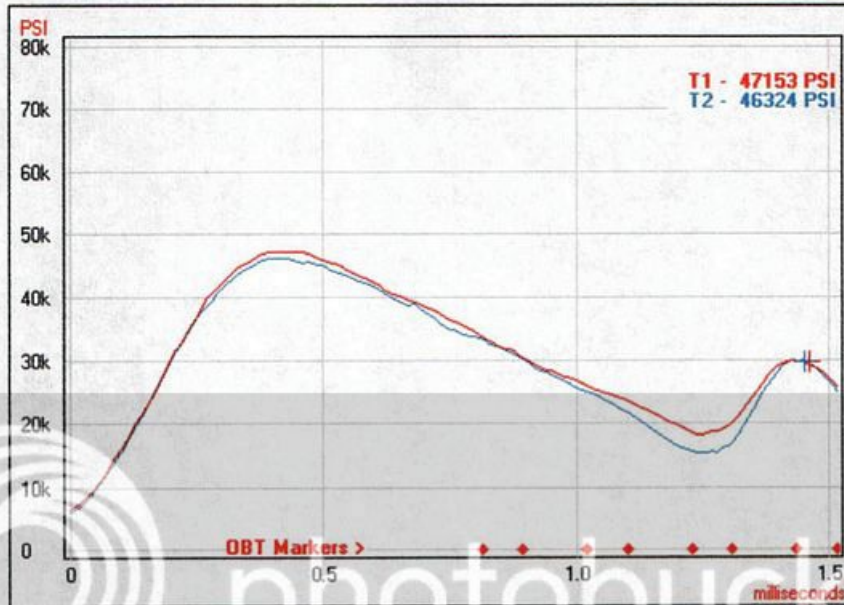
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PressureTrace Report
for
470 Nitro 500 Barnes Banded #1 Pressure

10/6/2010 10:15:13 AM
C:\Program Files\Southwest Products\PressureTrace\Traces\470 Nitro 500 Barnes #1.ptc

Temperature : 59 °F Pressure : 29.53 in Hg Humidity : 78 %



Trace	FPS	PSI	**Area	Rise	* Eff%	Ave	FPS	PSI	**Area	Rise
T1	2177	47153	4506K	170	100.00	2169	46738	4408K	170	
T2	2162	46324	4311K	170	96.72	SD	10	586	137K	0
						95% Prob	135	7452	1749K	0
						Hi	2177	47153	4506K	170
						Low	2162	46324	4311K	170
						ES	15	829	194K	0

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470 Nitro Express
Barrel OD: 1 in
Bullet Diameter: 0.474 in

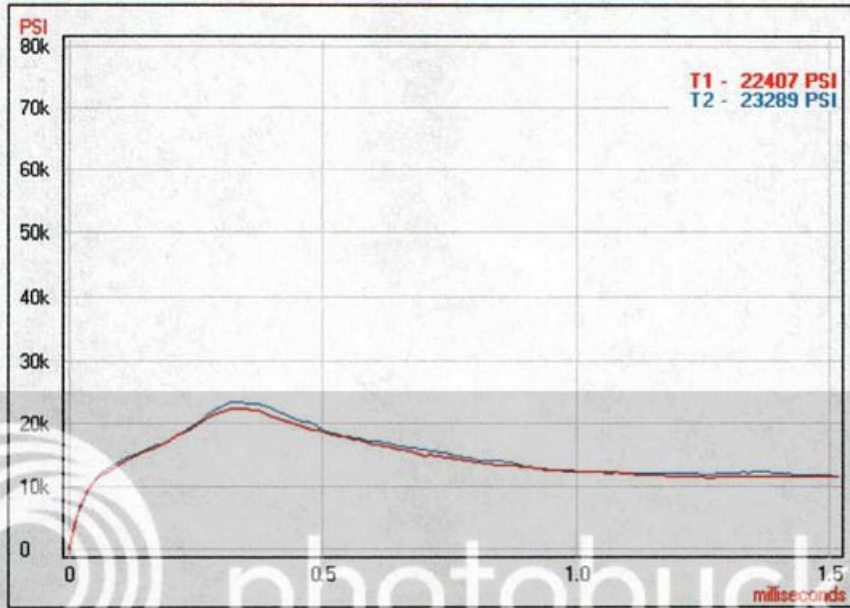
Case Wall: 0.026 in Barrel Length: 24 in Corr. Factor: 0
Chamber ID: 0.555 in Case OAL: 3.25 in Gage Factor: 2.1

Trace Notes

PressureTrace Report
for
470 Nitro 500 Barnes Banded Solid #2

10/6/2010 10:10:34 AM
C:\Program Files\Southwest Products\PressureTrace\Traces\470 Nitro 500 Barnes #2.ptc

Temperature : 59 °F Pressure : 29.53 in Hg Humidity : 78 %



Trace	FPS	PSI	**Area	Rise	*Eff%	FPS	PSI	**Area	Rise
T1	0	22407		170		Ave	0	22848	180
T2	0	23289		190		SD	0	623	14
						95% Prob	0	7922	179
						Hi	0	23289	190
						Low	0	22407	170
						ES	0	881	20

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Bullet Diameter: 0.474 in Chamber ID: 0.474 in Case OAL: 3.25 in Gage Factor: 2.1

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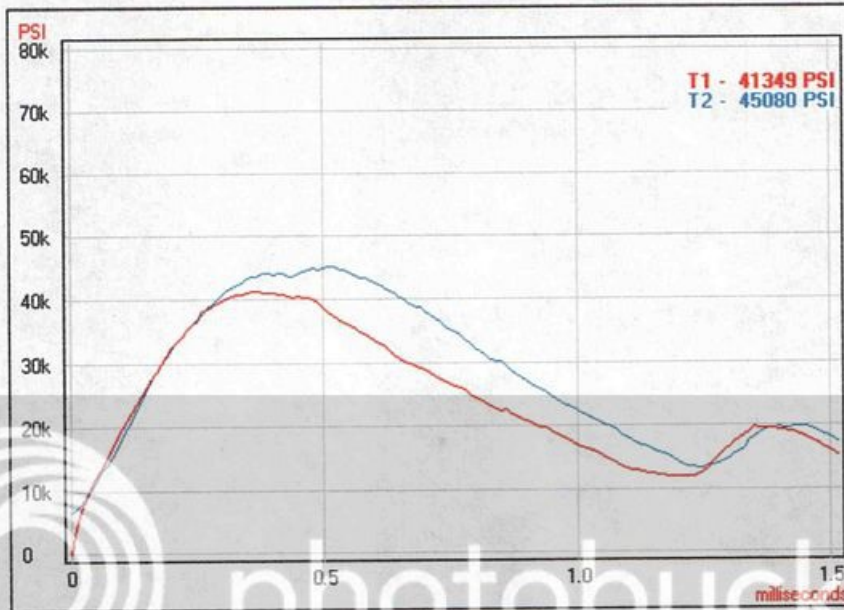
PressureTrace Report
for

470 Nitro 500 Barnes Original Copper Tube #1 Pressure

10/6/2010 10:53:15 AM

C:\Program Files\Southwest Products\PressureTrace\Traces\470 Nitro 500 Barnes Copper #1.ptc

Temperature : 59 °F Pressure : 29.53 in Hg Humidity : 78 %



Trace	FPS	PSI	**Area	Rise	* Eff%	FPS	PSI	**Area	Rise
T1	0	41349		150		Ave	0	43214	155
T2	0	45080		160		SD	0	2638	7
						95% Prob	0	33522	89
						Hi	0	45080	160
						Low	0	41349	150
						ES	0	3731	10

** Area is a indication of total energy delivered.
* Primarily for comparing loads with varying powder charge.
See the documentation for more information.

470 Nitro Express

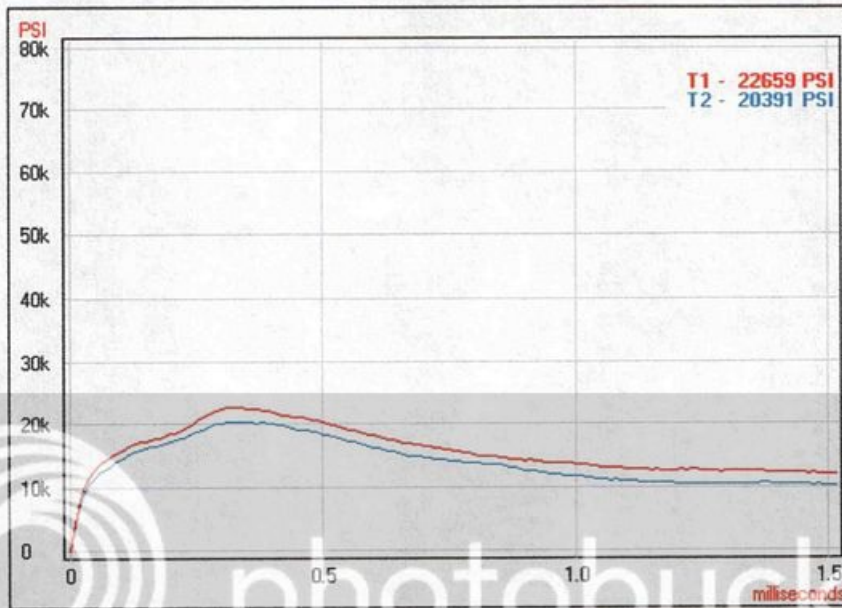
Barrel OD: 1 in Case Wall: 0.026 in Barrel Length: 24 in Corr. Factor: 0
Bullet Diameter: 0.474 in Chamber ID: 0.555 in Case OAL: 3.25 in Gage Factor: 2.1

Trace Notes

PressureTrace Report
for
470 Nitro 500 Barnes Original Copper Tube #2

10/6/2010 10:49:51 AM
C:\Program Files\Southwest Products\PressureTrace\Traces\470 Nitro 500 Barnes Copper #2.ptc

Temperature : 59 °F Pressure : 29.53 in Hg Humidity : 78 %



Trace	FPS	PSI	**Area	Rise	*Eff%	Ave	FPS	PSI	**Area	Rise
T1	0	22659		110			0	21525		110
T2	0	20391		110			0	1603		0
							0	20374		0
							0	22659		110
							0	20391		110
							0	2267		0

** Area is a indication of total energy delivered.
* Primarily for comparing loads with varying powder charge.
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470 Nitro Barrel #2
Barrel OD: 0.729 in
Bullet Diameter: 0.474 in

Case Wall: 0.026 in
Chamber ID: 0.474 in

Barrel Length: 24 in
Case OAL: 3.25 in

Corr. Factor: 0
Gage Factor: 2.1

Trace Notes

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

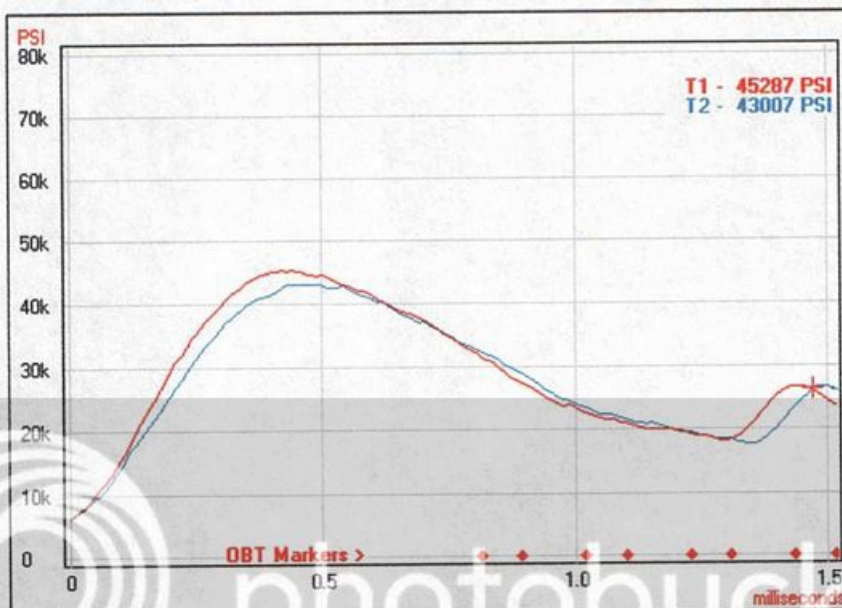
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PressureTrace Report
for
470 Nitro 500 Hornady DGS #1 Pressure

10/6/2010 10:19:56 AM
C:\Program Files\Southwest Products\PressureTrace\Traces\470 Nitro 500 Hornady DGS #1.ptc

Temperature : 59 °F Pressure : 29.53 in Hg Humidity : 78 %



Trace	FPS	PSI	**Area	Rise	*Eff%	Ave	FPS	PSI	**Area	Rise	
T1	2128	45287	4269K	170	96.99		2104	44147	4272K	180	
T2	2081	43007	4274K	190	100.00		SD	33	1612	3K	14
							95% Prob	422	20486	45K	179
							HI	2128	45287	4274K	190
							Low	2081	43007	4269K	170
							ES	47	2280	5K	20

** Area is a indication of total energy delivered.
* Primarily for comparing loads with varying powder charge.
See the documentation for more information.

470 Nitro Express
Barrel OD: 1 in
Bullet Diameter: 0.474 in

Case Wall: 0.026 in
Chamber ID: 0.555 in

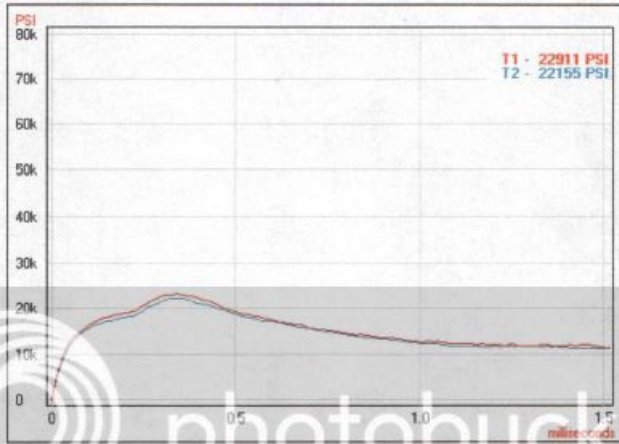
Barrel Length: 24 in
Case OAL: 3.25 in

Corr. Factor: 0
Gage Factor: 2.1

Trace Notes

PressureTrace Report
for
470 Nitro 500 Hornady DGS #2

10/6/2010 10:24:30 AM
C:\Program Files\Southwest Products\PressureTrace\Traces\470 Nitro 500 Hornady DGS #2.ptc
Temperature : 59 °F Pressure : 29.53 in Hg Humidity : 78 %



Trace	PPS	PSI	Area	Rise	Eff%	FPS	PSI	Area	Rise
T1	0	22911		110		Ave	0	22533	110
T2	0	22155		110		SD	0	534	0
						98% Prob	0	6791	0
						HI	0	22911	110
						Low	0	22155	110
						ES	0	755	0

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470 Nitro Barrel #2
Barrel OD: 0.729 in Case Wall: 0.026 in Barrel Length: 24 in Corr. Factor: 0
Bullet Diameter: 0.474 in Chamber ID: 0.474 in Case OAL: 3.25 in Gage Factor: 2.1

Trace Notes

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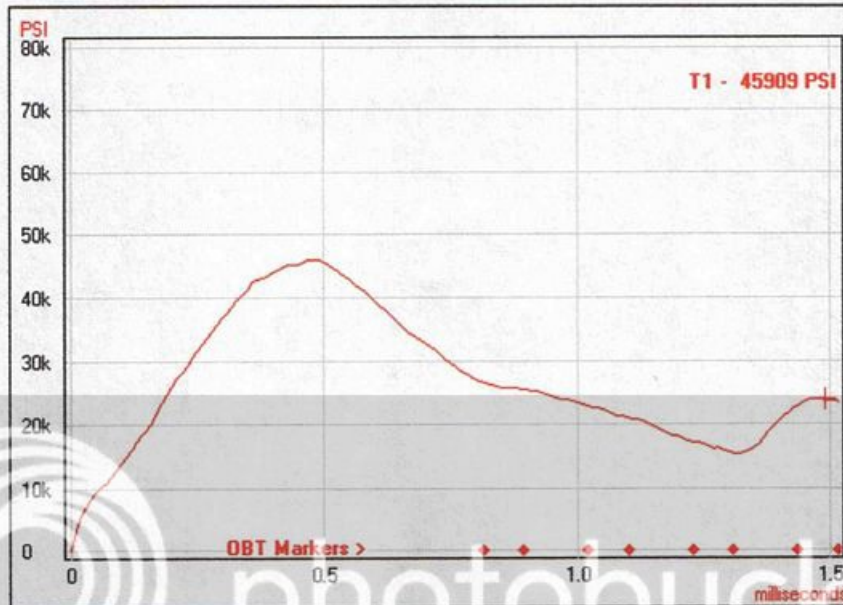
michael458

07 October 2010, 16:03

PressureTrace Report
for
470 Nitro 500 Kynoch Original Cordite #1 Pressure

10/6/2010 10:39:17 AM
C:\Program Files\Southwest Products\PressureTrace\Traces\470 Nitro 500 Kynoch #1.ptc

Temperature : 59 °F Pressure : 29.53 in Hg Humidity : 78 %



Trace	FPS	PSI	**Area	Rise	*Eff%	Ave	FPS	PSI	**Area	Rise
T1	2084	45909	4005K	200	100.00		2084	45909		200
						SD	0	0		0
						95% Prob	0	0		0
						HI	2084	45909		200
						Low	2084	45909		200
						ES	0	0		0

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470 Nitro Express
Barrel OD: 1 in
Bullet Diameter: 0.474 in

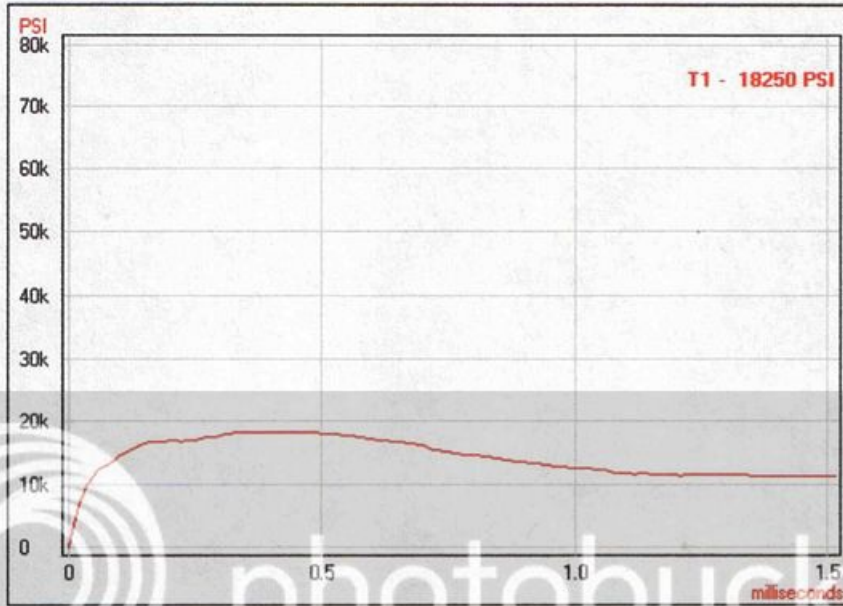
Case Wall: 0.026 in Barrel Length: 24 in Corr. Factor: 0
Chamber ID: 0.555 in Case OAL: 3.25 in Gage Factor: 2.1

Trace Notes

PressureTrace Report
for
470 Nitro 500 Kynoch Original Load Cordite #2

10/6/2010 10:35:57 AM
C:\Program Files\Southwest Products\PressureTrace\Traces\470 Nitro 500 Kynoch #2.ptc

Temperature : 59 °F Pressure : 29.53 in Hg Humidity : 78 %



Trace	FPS	PSI	**Area	Rise	*Eff%	FPS	PSI	**Area	Rise
T1	0	18250		70		Ave	0	18250	70
						SD	0	0	0
						95% Prob	0	0	0
						Hi	0	18250	70
						Low	0	18250	70
						ES	0	0	0

** Area is a indication of total energy delivered.
* Primarily for comparing loads with varying powder charge.
See the documentation for more information.

470 Nitro Barrel #2
Barrel OD: 0.729 in
Bullet Diameter: 0.474 in

Case Wall: 0.026 in
Chamber ID: 0.474 in

Barrel Length: 24 in
Case OAL: 3.25 in

Corr. Factor: 0
Gage Factor: 2.1

Trace Notes

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

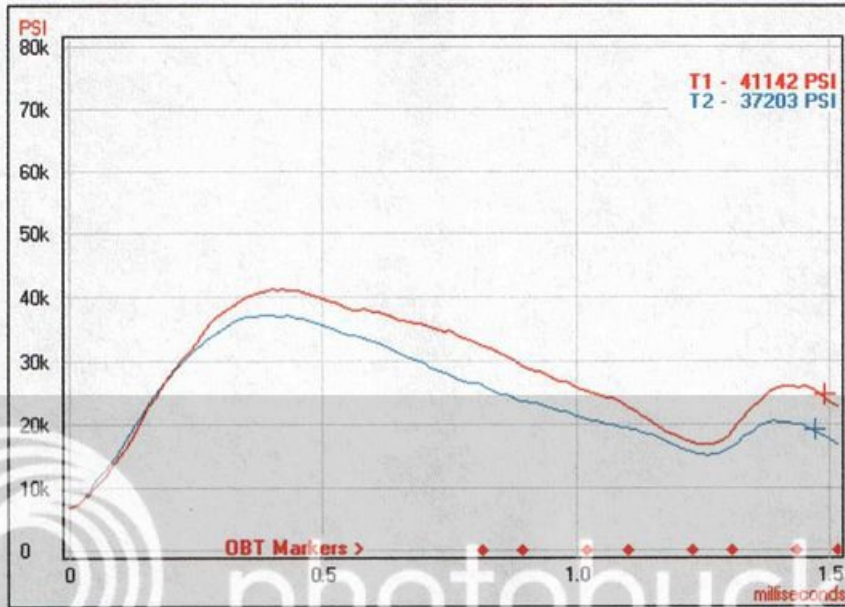
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PressureTrace Report
for
470 Nitro 466 BBW#13 Brass #1 Pressure

10/6/2010 10:42:59 AM
C:\Program Files\Southwest Products\PressureTrace\Traces\470 Nitro 466 BBW#13 Brass #1.ptc

Temperature : 59 °F Pressure : 29.53 in Hg Humidity : 78 %



Trace	FPS	PSI	**Area	Rise	* Eff%	Ave	FPS	PSI	**Area	Rise
T1	2157	41142	4200K	180	100.00					
T2	2126	37203	3646K	160	94.64					
						Ave	2141	39172	3923K	170
						SD	21	2784	391K	14
						95% Prob	278	35385	4972K	179
						HI	2157	41142	4200K	180
						Low	2126	37203	3646K	160
						ES	31	3938	553K	20

** Area is a indication of total energy delivered.
* Primarily for comparing loads with varying powder charge.
See the documentation for more information.

470 Nitro Express
Barrel OD: 1 in
Bullet Diameter: 0.474 in

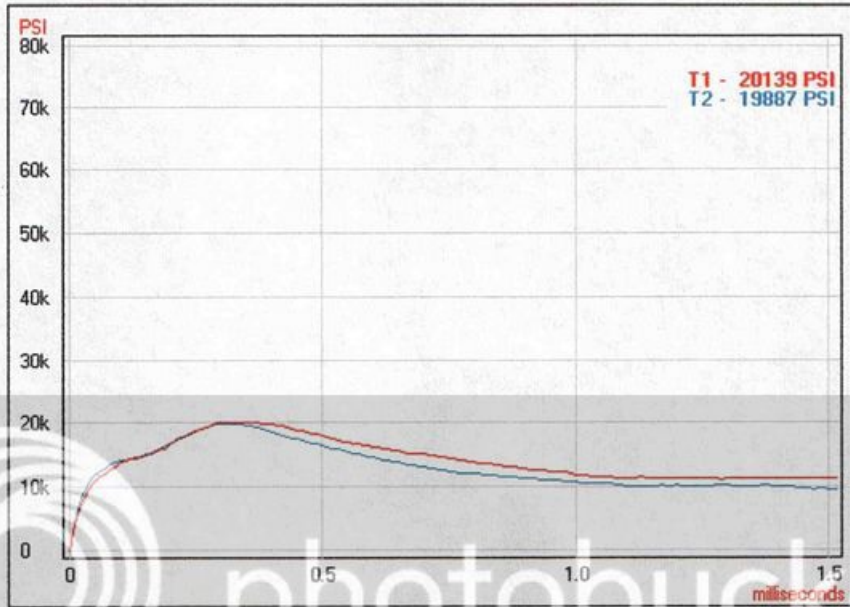
Case Wall: 0.026 in Barrel Length: 24 in Corr. Factor: 0
Chamber ID: 0.555 in Case OAL: 3.25 in Gage Factor: 2.1

Trace Notes

PressureTrace Report
for
470 Nitro 466 BBW#13 Brass #2

10/6/2010 10:46:39 AM
C:\Program Files\Southwest Products\PressureTrace\Traces\470 Nitro 466 BBW#13 Brass #2.ptc

Temperature : 59 °F Pressure : 29.53 in Hg Humidity : 78 %



Trace	FPS	PSI	**Area	Rise	* Eff%	FPS	PSI	**Area	Rise
T1	0	20139		140		Ave	0	20013	140
T2	0	19887		140		SD	0	178	0
						95% Prob	0	2263	0
						HI	0	20139	140
						Low	0	19887	140
						ES	0	251	0

** Area is a indication of total energy delivered.
* Primarily for comparing loads with varying powder charge.
See the documentation for more information.

470 Nitro Barrel #2
Barrel OD: 0.729 in
Bullet Diameter: 0.474 in

Case Wall: 0.026 in Barrel Length: 24 in Corr. Factor: 0
Chamber ID: 0.474 in Case OAL: 3.25 in Gage Factor: 2.1

Trace Notes

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

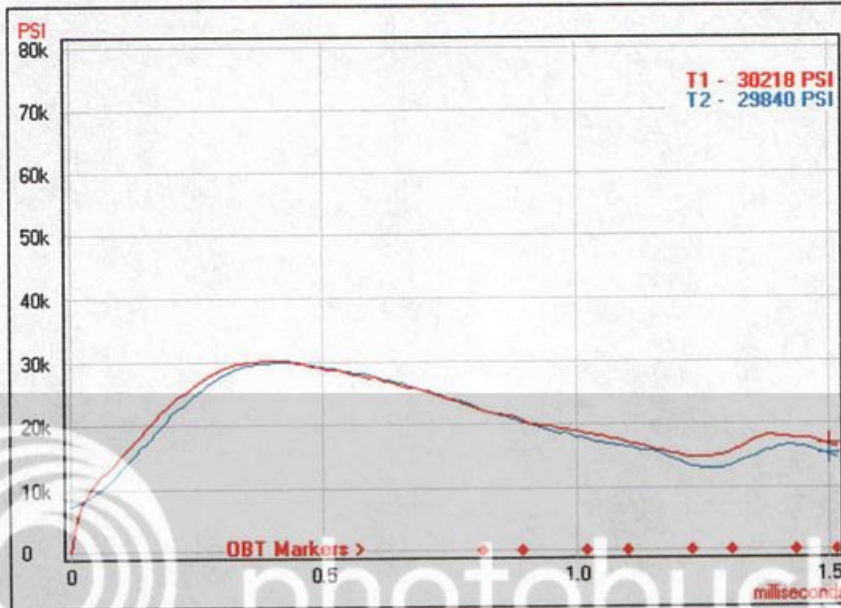
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PressureTrace Report
for
470 Nitro BBW #13 CEB Copper #1 Pressure

10/6/2010 9:57:32 AM
C:\Program Files\Southwest Products\PressureTrace\Traces\470 Nitro 500 CEB#13 #1.ptc

Temperature : 59 °F Pressure : 29.53 in Hg Humidity : 78 %



Trace	FPS	PSI	**Area	Rise	*Eff%		FPS	PSI	**Area	Rise
T1	2149	30218	3178K	160	100.00	Ave	2142	30029	3121K	185
T2	2136	29840	3065K	210	97.09	SD	9	267	79K	35
						95% Prob	117	3392	1010K	449
						HI	2149	30218	3178K	210
						Low	2136	29840	3065K	160
						ES	13	377	112K	50

** Area is a indication of total energy delivered.
* Primarily for comparing loads with varying powder charge.
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470 Nitro Barrel #2
Barrel OD: 0.729 in
Bullet Diameter: 0.474 in

Case Wall: 0.026 in
Chamber ID: 0.474 in

Barrel Length: 24 in
Case OAL: 3.25 in

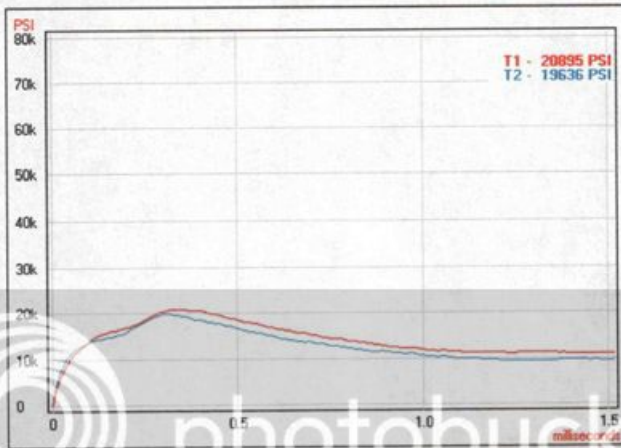
Corr. Factor: 0
Gage Factor: 2.1

Trace Notes

PressureTrace Report
for
470 Nitro 500 BBW #13 CEB Copper #2

10/8/2010 10:02:23 AM
C:\Program Files\Southwest Products\PressureTrace\Traces\470 Nitro 500 CEB#13 #2.ptc

Temperature : 59 °F Pressure : 29.53 in Hg Humidity : 78 %



Trace	FPS	PSI	**Area	Rise	*Eff%	Ave	FPS	PSI	**Area	Rise
T1	0	20895		130		0	0	20285		130
T2	0	19636		130		0	0	890		0
						95% Prob	0	11319		0
						HI	0	20895		130
						Low	0	19636		130
						ES	0	1259		0

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470 Nitro Barrel #2
Barrel OD: 0.729 in Case Wall: 0.026 in Barrel Length: 24 in Corr. Factor: 0
Bullet Diameter: 0.474 in Chamber ID: 0.474 in Case OAL: 3.25 in Gage Factor: 2.1

Trace Notes

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I Bin Therbefor

07 October 2010, 16:09

Every time I read this thread I remember the Joker's famous saying about Batman: "Where does he get those wonderful toys?"

Is the Michael458 lab really the Batcave?

peterdk

07 October 2010, 20:30

now sam

could i please get a few 577 560 grains in copper to blow through my henry rifled double,
i belive that your two band design has proved that is would actually be a good idea to try in the old guns, there is only one way for us to find out, please 🍀

exellent work you guy's but where is the hollowed base design since you were allready hooked up for bear, you might as well have done that (just kidding)
i really appreciate your work a lot, it has been a learning expirence for me, with a few wake up calls on the way.

the sam bbw two band system is really something we have to investigate further as i think it will set the standard for double rifle user's

forget GCS, and barnes, and a distant second would be north forks but to many bands where it is not needed, two band rock and

roll.

i really think because of the low resistance of the bands we could really approach some velocities unheard of in double rifles but still regulating and within the safe pressure zone.

i will rack my brain a bit over this, as an idea is brewing now, and it is never safe to say what might come out of that.

thank you guy's, i know it is a ot of hard work

peter

<http://www.facebook.com/pages/...ifile/146722612017963>

capoward

07 October 2010, 21:04

Very interesting testing – Kudos to both Michael and Sam for a different prospective to things.

I thought I'd throw the results into a spread sheet for a slightly different view of the results:

Pressure Test 20101006 - Chapuis 470 Nitro Express Double Rifle w/24 Inch Barrels - Performed By Michael McCourry & Sam Rose

Legend:

Benchmark Loading: Kynoch Original Cordite 500gr Loading w/FMJ (C&C) Bullet

Test Velocity/Pressure Loading: 106grs IMR 4831 Gun Powder w/Federal 215 Pimers & Bullets Of Various Manufacturers

Pressure Testing: Two PSI Pressure Trace Attachments: #1 Pressure Trace Attachment At 1.5" From Breech (22.5" From Muzzle)
#2 Pressure Trace Attachment At 19" From Breech (5" From Muzzle)

Note: C&C = Cup & Core Construction

Note: Pressure Trace Attachment Are Measured From The Breech

Incomplete Testing Data:

Bullet	Bullet Weight	Muzzle Velocity	Pressure At 1.5" f/Brh	Pressure At 19" f/Brh	Muzzle Velocity Difference	Pressure At 1.5" f/Brh Difference	Pressure At 19" f/Brh Difference
Kynoch Original Cordite Load FMJ (C&C) (SBP)	500grs	Error	Error	18250*	0	0	0
Kynoch Original Cordite Load FMJ (C&C) (BBP)	500grs	2110	45909	Error	0	0	0

*Note: Very slow fire - almost like hang fire

Note: SBP = Smaller Berdan Primer, BBP = Bigger Berdan Primer / Both cartridges are old mfg with the SBP cartridge being the oldest

Test Results:

Benchmark Loading: Woodleigh FMJ Solid (C&C w/Steel Jkt)

Bullet	Bullet Weight	Muzzle Velocity	Pressure At 1.5" f/Brh	Pressure At 19" f/Brh	Muzzle Velocity Difference	Pressure At 1.5" f/Brh Difference	Pressure At 19" f/Brh Difference
Woodleigh FMJ Solid (C&C w/Steel Jkt)	500grs	2110	44899	23677	0	0	0
Woodleigh RSN (C&C)	500grs	2104	36892	21903	6	8007	1774
Barnes BND SLD (Momometal)	500grs	2169	46738	22848	59	1839	829
Barnes Original Copper Tube Solid	500grs	2126	43214	21525	16	1685	2152
Hornady DGS (C&C w/Steel Jkt)	500grs	2104	44147	22533	6	752	1144
BBW #13 Brass (Monometal)	466grs	2141	39172	20013	31	5727	3664
BBW #13 CEB Copper (Monometal)	500grs	2142	30029	20265	32	14870	3412

Note: Red Numbers are Negative Numbers

Note: Brh = Breech

Note: Pressure Testing Issues with both Original Kynoch Cartridges therefore both removed from the Test Results and listed seperately

Ok it has been re-updated with NEW Comparison and other corrections. And finally posted!

Jim 🤖

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

John Wayne

michael458

07 October 2010, 21:34

Jim

The Kynoch is a 500 Gr FMJ Load.

The first strain gage for actual pressure is right at 1.5 inches, and the other is at 19 inches.

Very nice spreadsheet, thank you, excellent. I just have not had time to do that yet.

Be ready to take that spreadsheet with us down to Double Rifles when I do the post! It would be easier for those "Double Rifle"

Boys to read! LOL--HEH HEH 🤖 I am kidding boys, Sam is a close friend and he is one of you! But I don't cut him any slack either! We had one hell of a good time yesterday.

From Bat Central--IBT--Man you are a trip!

Peter

Thank you, mighty kind words, I don't expect to get that sort of reception down on the Double Rifle Forum, but I am going there anyway! I am going to try and help those people, whether they want it or not! Maybe you can come give me a hand when I post it! I know they are going to "Run my ass" off from there, but I must try and see if some might get some good out of it. HEH HEH, but I am going with a great attitude so I expect it will be more fun than anything! And I promise not to get angry when they tell me how crazy and full of crap I am! HEH HEH HEH, I will just laugh!

Not sure when I get a chance to, today, tomorrow, but I think this is of true benefit to those that might choose an open mind. Who knows? But see, I have nothing to sell them, so I don't care.

OK, you know I don't know crap about doubles, but when this started coming together, I was doing a little dance on the range I was so excited! It was wild around here yesterday when this data started showing up on the computer! Hell, I don't even have a double rifle, but I was more excited than any of you!

But, I do have a plan! I will be looking at some of these in my 50 B&M--lower pressure is always great--more velocity, and start moving pressures up, bigger hammer in the little guns! Hmmmmmm??????

Thanks Peter, your opinion is very important, and your input here extremely valuable. Thanks so much!

So how about it double rifle lurkers? What do you think???

Michael

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

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srose **07 October 2010, 22:44**

Michael, Great work and thanks for going to the trouble of posting all this data. Even though you don't own a double you are fast becoming educated in them.

Peter, You want A 2 band 560 .584 I think that can happen.

Jim, Thanks for all your work in figuring up the spread sheet, it does make it easier to see. I saw it yesterday when Michael and I spread all the papers out on the bar as we were having a beer and that 2 band jumped out with that smooth low pressure curve. Jim, as good as you are with this stuff you need to visit and run the computer while Michael shoots. He needs some trigger time and I need a rest from 4 hours of 470 shooting.

One interesting thing yesterday with the original Kynoch cordite RN FMJ loads. One was really old and the other maybe WWII age. The oldest was shot for #2 pressure because I didn't know if it would go bang or not. It went KAAAAAA ba Bang and still with such a hang fire it is right in there with velocity and pressure. This round might have been 100 years old. Also both Kynoch rounds were dead center of the target where the others were just a tiny bit right and in a ragged hole about 1.5 inches in dia.

Sam

capoward **07 October 2010, 22:47**

Ok I've updated the spreadsheet.

Sam...would be a coast to coast flight...one day will happen but likely after a ground travel!!! 😊

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

michael458 **07 October 2010, 23:02**

Jim

One thing on the spreadsheet. The #2 is not really barrel exit pressure. I would rather see that stated as Barrel Strain, or something else, as it is really not exit at that point.

M

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

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michael458

07 October 2010, 23:07

Hey Sam

No sweat buddy! Jim helped with the spreadsheet, makes it nice.

Thinking of taking it "Down" a few spaces, to the "Doubles" Just still thinking of a new name for the new thread down there, taking into account all the ones you sent yesterday. And thinking of the presentation.

Wonder how long it will take for them to boot me off for being a heathen, might get stoned to death?

HEH

M

Michael

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

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michael458

07 October 2010, 23:08

Hey, maybe I have it, Mike gave me an idea from one of his emails this morning, how about this;

Flat Earth Bullets vs Flat Nose Bullets?



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srose

07 October 2010, 23:19

Michael,

Took me a minute but oh I get it now!

Sam

peterdk

07 October 2010, 23:20

michael

please remember that when you were there last time you were suggesting completely different bullets which i would still give you sht about as i still have a hard time with some of the designs in elderly doubles.

BUT sam's design is a completely different kettle of fish, the two band design is the one that can turn this around as it is the one with the least bearing surface of all the bullet designs which might have lead to lower pressure and faster bullet speed with the same load and weight.

this design is actually ground breaking, as compared to all the different microbands where the body still are being engraved, those bullets still wont have a chance near any of my damascus barrels, but sams will. coming from me that means a lot of confidence and i have no doubt that they will perform just as they should in my guns.

how about: new bullet design for doubles !

best

peter

□

<http://www.facebook.com/pages/...ifile/146722612017963>

michael458

07 October 2010, 23:20

quote:

Originally posted by srose:
Michael,

Took me a minute but oh I get it now!

Sam

The "Flat Earth Society"

HEH HEH.....The world has to be flat?

<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"

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srose

07 October 2010, 23:27

Reminds me of an old black man that worked for my dad. He was in his late 80's and wanted to see the ocean before he died as he had never seen it. So someone took him to the coast and waited to see what he would say about it. " It ain't as big as I thought it would be"