

Kasper's words in blue.

Downey's words in red.

Meyer's words in black.

Explanatory information in *[bracketed black italic]*.

Where a previous body of text has been referenced within a given email for clarity, it is indented.

3/18/2007 9:26 AM

*[This is the first email where the genesis of the idea to do the barrel testing comes out. Kasper and Downey were discussing arrangements to have some gelatin testing done by John E. Of Brassfetcher. Kasper had some old bulk gelatin powder which he was exchanging with John E. for some testing.]*

I think they are fun. And the RCBD (or some permutation but it used to be linked to the Bond web site) ammo looks pretty impressive in clay. If one shot doesn't do it in a person they will at least be missing whatever appendage one hit ;)

In fact, perhaps we should have the gelatin guy try some of the stuff (if the company is still around to make any testing meaningful). I think of the ammo as only for revolvers or derringers as it had severe feed issues when I was playing with it.

Go for it! He's open to doing whatever testing you want. Having just given him 110 pounds of gel powder has made him very cooperative...particularly if he thinks he can get more. :)

In .44 mag from a two inch barrel with regular ammo I think you still get the equivalent energy as a 5" .45 ACP. And that is something. I should send a copy of the little article I check for barrel comparisons. I wish it was redone for a variety of calibers other than .44 mag though. The authors started with an 18" barrel and did velocity test each inch decrement to 2". I'm getting older and I probably have already mentioned this article before so I will get it out to you this week! :)

3/18/2007 9:33 AM

Got your note today about the testing done on barrel length. Interesting - I would not have predicted that the greatest gains would be made in just the first couple of inches so radically.

And an interesting proposition about testing other calibers. Sounds like it'd be a great

weekend project sometime! The thing to do would be to buy a good used or even new chronograph (which you could resell after) to do the tests. Doing the revolver cartridges would be simple - the autos significantly more difficult. I haven't checked in recent history - are the auto cartridges available in Thompson Contender configurations? Because that would be the simplest and most cost-effective way of doing it - get the longest possible barrel for each caliber, but use the same firing platform. That would at least give you data on the relative performance of each cartridge with a given barrel length. Otherwise, your best bet with the autos would be with a carbine configuration, which I'm fairly sure would cover all four of your specified automatic calibers. That'd resolve the issue with standard pistol barrel movement, and still give you a basis for reasonable comparison. Of course, you'd have to have a new replacement barrel for each carbine ready, or you'd risk a nasty visit from the BATFE...

Properly done, it'd make a \*great\* article for any of the decent gun mags.

So, when do you want to schedule it? ;)

3/24/2007 6:57 PM

I'm thinking about the weekend science project. I think it is something we could do, and I might even see about getting an approval from the BATFE under the research exemption as well getting the appropriate barrels for a Thompson Contender. Who is going to cut and recrown the barrel - I'm not really one to trust with a lathe nor do I own one. But perhaps if we go the legal route I can just see about getting all of the barrels from Thompson.

3/24/2007 6:56 PM

Nah, I checked, and the calibers aren't available for the TC. Going with inexpensive carbines is the way to do it. I have a Sub2000 in 9mm already, they make a .40. Getting different brands for the .357 and .45 would be easy. Then just order one extra barrel for each and you have a safe, legal, finished product, with the test barrels destroyed. I've already disassembled my Sub2k - just need a strap wrench to change the barrel. Easy.

We can do the chopping ourselves, with a chop saw and metal-cutting wheel. Then it's just a matter of deburring the barrel, testing, repeat. We don't need to worry about accuracy, just safety. Those thin barrels for the carbines would chop easy.

Yeah, I've been thinking about this... ;)

3/25/2007 12:28 PM

Do you mean getting .357 and .45 for the Sub2000 or using a different platform? I have something in both of those calibers and could just order an extra barrel for the fun. But then the tests wouldn't all be from the same platform.

We can do the chopping ourselves, with a chop saw and metal-cutting wheel. Then it's just a matter of deburring the barrel, testing, repeat. We don't need to worry about accuracy, just safety. Those thin barrels for the carbines would chop easy.

As long as the bullets actually go through the chronometer ;)

Have you done any web checking to see if this has been done and I'm just not aware of it?

3/25/2007 12:46 PM

Do you mean getting .357 and .45 for the Sub2000 or using a different platform? I have something in both of those calibers and could just order an extra barrel for the fun. But then the tests wouldn't all be from the same platform.

The Sub2K doesn't come in those, unfortunately. In fact, I can't think of someone who makes a carbine available in all the calibers you mentioned. So that may need to be a trade-off in the uniformity of the test - have a couple of different brands of carbines used.

However, if your goal is to test the relative benefits of barrel length, using different types of carbines won't matter that much - we'd still get the data for how fps drops with barrel length for each caliber. The general information would still be applicable. Otherwise, you'd have to test each and every platform out there to know specific performance variations, anyway.

And I would suggest one additional testing component. In the American Rifleman test, they did five shots each of three brands of ball ammo, to get an average. That's fine. But we might also want to do a group of 'performance/self-defense' rounds, say all +P jacketed hollowpoints, since that ammo is now widely available and has ostensibly been formulated to work in smaller handguns. It may well be that the loss curve for power for those is radically different.

Setting up a simple spreadsheet to track & calculate all the numbers should be fairly easy. If you don't have the requisite skills (I sure don't), I'd bet I could get Alix [Downey's wife] to do it.

As long as the bullets actually go through the chronometer ;)

Well, through the sensors, anyway. Going through the instrument itself might be bad. ;)

Have you done any web checking to see if this has been done and I'm just not aware of it?

I haven't yet gone out and checked to see if this has actually been done (and would do so before you wanted to start buying equipment), but I haven't seen \*any\* references to such tests, and I bet people would cite it if it were available. And to a certain extent it makes sense that no one has done it - gun manufacturers who want to sell little guns would have no incentive to have the info out there (and just about every manufacturer has some pistols in those configurations); ammo makers do already tout the benefits of their specialty ammo but don't go too far in making claims for which they might be held liable; the guy I shipped the ballistic gel to (and I've about half decided to ship him the second barrel) only has access to a limited range of guns, so hasn't done the sort of inch-by-inch testing you envision; and most people aren't willing to pop for the cost of new barrels for a range of guns which will be destroyed, just out of curiosity as to ammo performance curves. In economic terms, there's no good reason someone would have done this, and some barriers to doing it. That said, when it is done, it would be of benefit to many people - and I bet would be very welcome as an article for any of the gun mags, as we've discussed.

This is a fun mental exercise, if nothing else. :)

3/25/2007 8:04 PM

...It sounds like we should do this. Even if some of the data is on-line it doesn't sound like it's readily available or known. When you give the go ahead I'll order the barrels for .357/.38, .45 LC and .44 mag/.44 special (I think we should redo this as well with the range of ammo), as well as the chronometer. I might have a gun that will work in .32 mag as well. And I can order the barrels for the Sub2000 as well as ammo. And I like the idea of a range of ammunition, but I think we should also try some of the normal pressure hollow points in addition to the +P as well as a couple of bullet weights.

I don't really think changing the platform means much, but wanted to at least discuss it.

Dispensing with that, I think the only important things now (although a short web search would be prudent) are to establish the full criteria.

Calibers

bullet weight and type

barrel length - should we try to get them all at the same starting length or just get close and do all of them then on the one inch decrement.

order of testing - I suppose we should do some sort of control to see if the order of the tests and thus wear (albeit very little) has any effect. Perhaps reshoot the first tested rounds at the end of a cycle before reducing the length.

number of rounds of each

cleaning frequency - This might be part of the checking the first ammo again at the end of a cycle. If there isn't really any noticeable velocity shift I would hazard the guess that we could simple clean after each cut.

how close in time the test shots should be (barrel cool or warm)

bench rested for all shots - should we set up something fixed at the butt end for consistency or break down and get the bolt down Ransom thing.

other???

And then finally, where to do this. If here, we can shoot in the ravine in privacy and have electricity for the saw and like close at hand. Down side is that you have constraints on your travel and time. But I'm not against coming down there if you have a place where we won't be watched closely.

At first I thought it wouldn't take a full weekend, but the more I consider cleaning, cutting, a range of ammo etc the more I think you are right.

3/25/2007 9:11 PM

...It sounds like we should do this.

Sounds like fun!

Even if some of the data is on-line it doesn't sound like it's readily available or known. When you give the go ahead I'll order the barrels for .357/.38, .45 LC and .44 mag/.44 special (I think we should redo this as well with the range of ammo), as well as the chronometer. I might have a gun that will work in .32 mag as well. And I can order the barrels for the Sub2000 as well as ammo.

Righto. Unless you already have a carbine in .40 S&W, we'll need one of those (a chance for you to add a Sub2000 to your collection?), since I don't believe mine would easily adapt to that caliber.

And I like the idea of a range of ammunition, but I think we should also try some of the normal pressure hollow points in addition to the +P as well as a couple of bullet weights.

That's reasonable. It shouldn't add much to the time or expense, really.

I don't really think changing the platform means much, but wanted to at least discuss it. Dispensing with that, I think the only important things now (although a short web search would be prudent) are to establish the full criteria.

Agreed. This is largely your call as to what all you want to do.

Calibers

bullet weight and type

barrel length - should we try to get them all at the same starting length or just get close and do all of them then on the one inch decrement.

Well, so long as we start with say an 18" minimum, we can chop 'em all to one length. Make tabulation simpler.

order of testing - I suppose we should do some sort of control to see if the order of the tests and thus wear (albeit very little) has any effect. Perhaps reshoot the first tested rounds at the end of a cycle before reducing the length.

That should suffice. I can't honestly see where cleaning or wear would be much of an issue - but this would confirm that.

number of rounds of each

They did five of each type in the AR tests. I would think that would be a minimum. While I've not got a statistics background, I'd say doing more than 10 wouldn't really help give us much more confidence in our averages. We're not trying to establish a cutting-edge science theory here, just set some parameters for reasonable expectations from a given barrel length & ammo combination.

cleaning frequency - This might be part of the checking the first ammo again at the end of a cycle. If there isn't really any noticeable velocity shift I would hazard the guess that we could simple clean after each cut.

Yeah, I'd think a swipe or two with a bore snake would suffice. We'll be working with new barrels, so the risk of old copper or lead build-up is non-existent.

how close in time the test shots should be (barrel cool or warm)

Again, I can't see where this would really change our margin of error. I'd say just do a shot, record, next shot, through the cycle. The cooler ones will offset the warmer ones.

bench rested for all shots - should we set up something fixed at the butt end for consistency or break down and get the bolt down Ransom thing.

Yeah, a simple table with a sandbag/stop at the back should be fine.

other???

Perhaps the beginning of each cycle (after a cut), run a sequence of shots through a selected 'standard' carbine to insure that we haven't had any setting drift in the chronograph?

I'd also rec getting at least stills of some of the whole set up and procedure. Might be fun to establish a simple website with all the documentation and results. So long as we kept to just photos and text, the costs would be minimal (my Communion site runs just about \$3.00 a month - and I haven't used 1/1,000 of the storage or bandwidth in a given month). If we added movies, that would change. But that's just an idea.

We'll need a chop saw - or some other means of safely cutting the barrels. I was being a bit flip in saying 'Bubba-fi it' - will want to confirm that this is indeed a sufficiently safe technique. I believe I have the necessary tools to debur a barrel after cutting, I just want to make sure that carving into such tempered steel isn't going to cause problems. I'll research that.

And then finally, where to do this. If here, we can shoot in the ravine in privacy and have electricity for the saw and like close at hand. Down side is that you have constraints on your travel and time. But I'm not against coming down there if you have a place where we won't be watched closely.

Out at the family farm I have pretty much the perfect place to do this, if you wish. Remote, private land, where my brother-in-law just put in a big barn and has power and water. Just off his gravel parking area is a brushpile more than sufficient as a backstop - I do a lot of my pistol shooting there. But it would be somewhat weather-dependent (I have a small shelter we could pitch, I suppose). I have the other necessary goodies on hand here (banquet tables, extension cords, et cetera), but no bench-rest equipment. And I can't really offer much in the way of hospitality here at the house, since having anyone here will disrupt the routine with MMIL [*Downey's Mother-In-Law, for whom Downey and his wife were caring*].

With a little advance planning, I could come up for a weekend. I know Alix would be willing to take an extra shift of on-call to allow me to get away. We do this now and again when something comes up.

So, either way.

At first I thought it wouldn't take a full weekend, but the more I consider cleaning, cutting, a range of ammo etc the more I think you are right.

I think it would be wise to allot that much time for it, anyway.

3/25/2007 10:50 PM

Righto. Unless you already have a carbine in .40 S&W, we'll need one of those (a chance for you to add a Sub2000 to your collection?), since I don't believe mine would easily adapt to that caliber.

How is the barrel mounted in the Sub? It occurs to me that issue might set a minimum length in that platform. On thing about doing the tests with a revolver or bolt action is that it gets around such issues.

That's reasonable. It shouldn't add much to the time or expense, really.

No real difficulties, but decisions to be made.



Well, so long as we start with say an 18" minimum, we can chop 'em all to one length. Make tabulation simpler.

That's true! Must be why you get the big bucks.

Perhaps the beginning of each cycle (after a cut), run a sequence of shots through a selected 'standard' carbine to insure that we haven't had any setting drift in the chronograph?

That's a good idea.

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I like the idea. I suppose that part of the documentation should be destroying the nub end of the test barrels and anything else you can think of to help us avoid trouble :)

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I have a metal chop saw. I would think if we use coolant while cutting there shouldn't be too much trouble, but I was wondering the same thing. Otherwise a hacksaw or a very small metal cutting band saw.

Out at the family farm I have pretty much the perfect place to do this, if you wish. Remote, private land, where my brother-in-law just put in a big barn and has power and water. Just off his gravel parking area is a brushpile more than sufficient as a backstop - I do a lot of my pistol shooting there. But it would be somewhat weather-dependent (I have a small shelter we could pitch, I suppose). I have the other necessary goodies on hand here (banquet tables, extension cords, et cetera), but no bench-rest equipment. And I can't really offer much in the way of hospitality here at the house, since having anyone here will disrupt the routine with MMIL.

I think it sounds better to work this at your end all things considered. And I don't mind a hotel. I have a very nice rest.

I think it would be wise to allot that much time for it, anyway.

If we got a really wild hair, we could mix up ballistic gelatin and put one round of each ammo type at each barrel length into it. I hear you know some one with a bunch of the stuff :)

If we did start to head that way I would guess getting only one caliber done per weekend would be the pace. But still worthwhile and fun.

3/26/2007 7:58 AM

How is the barrel mounted in the Sub? It occurs to me that issue might set a minimum length in that platform. On thing about doing the tests with a revolver or bolt action is that it gets around such issues.

Good point. It has a mounting collar that screws down with a simple strap wrench. I'd have to check the precise arrangement to see how it might influence things.

No real difficulties, but decisions to be made.

Ayup. If you're going to order in the supplies, the folks at Fin & Feather should be able to assemble a list for you of fairly 'standard' weights.

That's true! Must be why you get the big bucks.

You have discovered the secret of my success, my friend.

I like the idea. I suppose that part of the documentation should be destroying the nub end of the test barrels and anything else you can think of to help us avoid trouble :)

Yeah, I do wonder a bit about that. Not like we need to get on anyone's shit-list at the BATFE. Simple and straightforward documentation should help.

I have a metal chop saw. I would think if we use coolant while cutting there shouldn't be too much trouble, but I was wondering the same thing. Otherwise a hacksaw or a very small metal cutting band saw.

I started doing some research into this last night, found some interesting (some \*scary!\*) sites. Here's one that looks promising, though I haven't dug around in it much yet: [http://www.practicalmachinist.com/cgi-bin/ubbcbgi/ultimatebb.cgi?ubb=forum;f=16;hardset=1000;start\\_point=0;DaysPrune=0](http://www.practicalmachinist.com/cgi-bin/ubbcbgi/ultimatebb.cgi?ubb=forum;f=16;hardset=1000;start_point=0;DaysPrune=0)

I'm sure we can find a safe and fairly simple way to do the chopping, since we're looking for a specific bit of data rather than a craftsman's finished commercial product.

I also dug somewhat deeper into whether this has been done. More yet to do, but did see some references to the American Rifleman piece and the comment that "they do that kind of testing every ten years or so...", so that may be a place to look.

I have a very nice rest.

OK, cool.

If we got a really wild hair, we could mix up ballistic gelatin and put one round of each ammo type at each barrel length into it. I hear you know some one with a bunch of the stuff :)

To be honest, I've come to the same conclusion that you did regarding the gelatin: too high a level of 'pain-in-the-ass' to work with casually. Once you had the set-up to do it all (molds, cooking equipment, refrigeration equipment, shooting gallery), it'd be fairly easy to do production-type testing like the guy down in FL [*Brassfetcher*] does. But getting to that point means a pretty steep prep and learning curve.

So my vote would be just go with the chrono data, perhaps calculate FPE [*Foot-Pounds of Energy*] as part of the finished product, but do it all in one weekend.

3/26/2007 1:09 PM

Here's some threads I found relating to the subject of cutting down a barrel and resultant energy loss. Basically, it confirms what we've been discussing in terms of technique (any kind of cutting tool should work fine) and what info is out there (anecdotal and scattered). In other words, there's a need for this from what I can tell, though I'm going to do some more research and see what else I can come across.

<http://www.thehighroad.org/showthread.php?p=2725117>

<http://www.thehighroad.org/showthread.php?p=1267027>

<http://www.thehighroad.org/showthread.php?t=195349>

<http://www.thehighroad.org/showthread.php?t=67383>

3/26/2007 3:47 PM

From those threads it would certainly seem that there isn't a well known set of measured numbers for what we want to do.

3/26/2007 8:28 PM

Yeah, it confirms my earlier thoughts. Like I said, I still need to do some other research, but I'm feeling increasingly comfortable with the prospects that this would be well received.

4/1/2007 9:17 AM

Started thinking more about test platforms for our barrel effort, as well as getting ready to send something along to the Gelatin Man.

4/1/2007 2:27 PM

Also, beginning to settle into possible calibers for my carry always reduces my interest in testing in the wider circle. But who knows, maybe the lowly .25 in an 18" barrel is a hidden man stopper? ;)

4/1/2007 4:57 PM

Shit, it's a barrel-stopper, in my opinion. As in I wouldn't trust the bullet to make it all the way out of an 18" barrel. I'd take a .22lr over a .25, any day. But you're a big boy, with plenty of experience, so if you decide that the .25 with the 18" barrel is the right configuration for you, then go for it. ;)

4/6/2007 6:23 PM

Testing platform for 1" decrements - head space an 18" barrel, weld lugs or grind grooves

about 3/4" from the breech allowing the barrel be locked to a block with a firing pin hole in it (or some other variant of this), and anchor the assembly to the bench.

Fire

What do you think?

4/6/2007 9:45 PM

I'm not sure that I'm picturing what you have in mind. Are you talking about just using a barrel, no gun behind it other than some kind of fabricated receiver? Seems like a lot of work, when just using a carbine will do.

Otherwise (and even in that case), I don't get where it is wise or even safe to be welding bits onto a barrel or grinding weakness into it. If you're worried about being there to shoot the thing by hand, it can easily be secured with a simple clamp or restraining straps much more easily.

Or have I completely misunderstood what you're picturing???

4/6/2007 10:18 PM

Not really much fabrication - just a block that can be solidly mated to the barrel. If you look at the locking blocks for a shot gun you get the effect of the welded version. If one used grooves they wouldn't need to be too deep - and if we used non-contoured barrels there is a fair bit of metal. Or heavy pipe clamps to run along the length. Or a threaded breech block.

I was thinking about this approach in particular for some of the calibers where getting a carbine or even a revolver might be a challenge --- .25 ACP, .32 ACP, .380 ACP.

If we stick to 9mm, .40 SW, .45 ACP, .38SPC/.357MAG, .44SPC/.44 MAG then the carbines will work. I don't know about barrel availability to convert any of my .40 carbines into .357 SIG but can check on it as well as seeing if there any such carbines out there. I have long guns in 9, 40, 45, 357, 44 and perhaps that is good enough to work with for the time being.

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clamp or restraining straps much more easily.

Or have I completely misunderstood what you're picturing???

I'm not worried about holding the thing :) it just occurred to me today that people have been proofing barrels sans actions for years and thought it might be a way to go for the odd calibers. But maybe I'm the only one interested in those :)

4/6/2007 10:29 PM

Not really much fabrication - just a block that can be solidly mated to the barrel. If you look at the locking blocks for a shot gun you get the effect of the welded version. If one used grooves they wouldn't need to be too deep - and if we used non-contoured barrels there is a fair bit of metal. Or heavy pipe clamps to run along the length. Or a threaded breech block.

Huh. You did mean what I pictured. OK, I get it. Still seems like a lot of work to me - having to disassemble the thing to remove the shell casing each time, then re-assemble to fire again. We were talking multiple rounds at each length for each caliber, in order to get enough data points, right?

I was thinking about this approach in particular for some of the calibers where getting a carbine or even a revolver might be a challenge --- .25 ACP, .32 ACP, .380 ACP.

Ah. Now I see the logic of it. I didn't remember you specifying those calibers when we first started talking about this. I thought you really only wanted to test what I would consider to be viable carry rounds - though the .380 does come in at the point that I would consider it a back-up.

If we stick to 9mm, .40 SW, .45 ACP, .38SPC/.357MAG, .44SPC/.44 MAG then the carbines will work. I don't know about barrel availability to convert any of my .40 carbines into .357 SIG but can check on it as well as seeing if there any such carbines out there. I have long guns in 9, 40, 45, 357, 44 and perhaps that is good enough to work with for the time being.

Well, those were the rounds we were initially discussing, according to my recollection. Having the .357 SIG would be good, too, though, I have to agree with that.

I'm not worried about holding the thing :) it just occurred to me today that people have been proofing barrels sans actions for years and thought it might be a way to

go for the odd calibers. But maybe I'm the only one interested in those :)

"Those few, those odd few, that band of buggers..."

OK, granted, barrels are proofed like that. But that's usually a dedicated gunsmithy, and you're not shooting multiple rounds through each barrel - you're shooting multiple barrels. The mechanics would work, but the economics (of effort, if nothing else) don't make as much sense.

Other than that, I think it is a fine idea. ;)

4/7/2007 7:37 AM

So I'll check on the .357 Sig and get the appropriate barrels (and ammo along the lines of the list I sent for gelatin) ordered this week for the long guns in the 9 - 45 series. If it's enough fun I'll consider the mouse gun series again later. :)

4/7/2007 10:03 AM

Righto. I suppose my brilliance dazzled, or my bullshit baffled, to paraphrase another Missourian. ;)

If it's enough fun I'll consider the mouse gun series again later. :)

Actually, it's not a bad idea to test those, though I don't think you'd need to go all the way out to 18" - I'd bet 12" would be more than sufficient. Those little cartridges just don't hold that much powder. I think I've seen a .32 carbine referenced, but don't recall ever have come across a .25 or .380.

4/7/2007 11:11 AM

I thought there was one in .380 - the Skorpion or such, but I think it was banned in the late 80s or early 90s and it might well have been a machine pistol. I haven't thought about in some time. I'll have to do some rooting around the auction sites.

4/7/2007 11:34 AM

.32 acp - there are easy chamber conversion thingies for .308 and 30-06 to .32 acp

4/7/2007 2:31 PM

I thought there was one in .380 - the Skorpion or such, but I think it was banned in the late 80s or early 90s and it might well have been a machine pistol. I haven't thought about in some time. I'll have to do some rooting around the auction sites.

Well, good luck hunting.

.32 acp - there are easy chamber conversion thingies for .308 and 30-06 to .32 acp

My, you've been busy.

4/12/2007 5:15 PM

I talked to the gunsmith today about what platform could be used for all of the barrels from .25 auto through .45 Colt. So we'll see what happens there. And I ordered ammunition.

4/14/2007 1:57 PM

Sounds good.

4/15/2007 12:44 PM

I'm feeling better today so a little more on this. I discussed the project enough to make clear that he should choose the appropriate rifle that would allow ease in getting barrels made, in swapping them out, and that would not require lots of ejector machining. So he is thinking about it. I'm ordering whatever base gun in 45-70 so it should be built strong enough for the .44 mag and I will have something I like when we're done. And we'll use the twist rate that is most commonly used for each caliber.

4/15/2007 1:30 PM

Sounds like a plan, though I must admit that I will cringe at chopping up a custom barrel ...



But if you wind up with something you want, then that's good.

4/27/2007 8:22 PM

The barrels are ordered and we will be using a Thomson Contender for the platform. I have a bunch of the ammo now, but we are having trouble getting the Corbon DPX stuff. If it takes longer than the barrels we will just assume it isn't a "readily available ammo" and do the tests without it. I will send a list along once things settle down on the orders.

I have almost all of the ammo for the gelatin tests and a little more of the remaining bits are on the way.

4/27/2007 9:22 PM

The barrels are ordered and we will be using a Thomson Contender for the platform.

Ah, that's reasonable. I hope the smith understands that we'll be chopping these things up, and doesn't make them all bull or something "sturdy".

I have a bunch of the ammo now, but we are having trouble getting the Corbon DPX stuff. If it takes longer than the barrels we will just assume it isn't a "readily available ammo" and do the tests without it. I will send a list along once things settle down on the orders.

Very cool This'll be fun!

Think about what domain name we'll want for the website.

4/27/2007 9:35 PM

Ah, that's reasonable. I hope the smith understands that we'll be chopping these things up, and doesn't make them all bull or something "sturdy".

Yep, no sights or anything fancy - just easy for us to mount and go. He's tickled by the test plan.

Very cool This'll be fun!

Think about what domain name we'll want for the website.

"who's afraid of the fat, the fat, the fat?"

4/27/2007 10:12 PM

Yep, no sights or anything fancy - just easy for us to mount and go. He's tickled by the test plan.

Excellent! You might check with him and see what he would recommend for doing the quick & dirty chops.

"who's afraid of the fat, the fat, the fat?"

Hehehehehehehehehehehehehehehehehehe!!!!!!

5/12/2007 7:32 AM

And more of our testing ammo is in. I'm hoping to get something set up in Excel to record things as well as give us some nice sheets on which to record the field tests.

5/12/2007 9:24 AM

Makes all kinds of sense. If you're not up for that (don't know about your familiarity with that kind of software), I'm sure I can get Alix [Downey's wife] to do it. She is very conversant with Excel and related spreadsheets.

5/12/2007 2:49 PM

I just don't want to stick you two with even more to do.

5/13/2007 6:24 AM

Well, that's appreciated, but if you have to climb a steep learning curve, it's just not efficient. Seriously.

6/12/2007 3:59 PM

The TP-9 is in - <http://www.dsarms.com/prodinfo.asp?number=BTTP9> and the rest of the Corbon DPX ammo. I think that finishes up the ammo list for the tests so I will either e-mail the list to you for a spreadsheet or see what happens when I touch the program. No word yet on the barrels and gun.

6/22/2007 9:43 AM

*[Seem to have lost an email in here someplace, so I've double-indented the relevant comment.]*

And if there is anything you would like to add to the list just say so - well, once the list actually gets there.

Heh. OK, but not too likely.

Follows below and we may need to add +P to a number of these, since we need a better manager at this end ;)

.45 Colt

Federal 225 SWC  
Corbon 200 JHP +P  
Corbon 225 DPX +P

.45 ACP

Federal 230 HydraShok  
Federal 165 HS  
Federal 185 JHP  
Federal 230 JHP  
Federal 165 Expanding Full Metal Jacket EMFJ

Corbon 165 JHP +P  
Corbon 185 JHP +P  
Corbon 200 JHP +P

Corbon 230 JHP +P  
Corbon 185 DPX +P  
Corbon 225 DPX +P

.44 MAG

Federal 240 HS

Corbon 165 JHP  
Corbon 225 DPX

.44 SPL

Winchester 200 Silver Tip ST

Corbon 165 JHP  
Corbon 140 DPX

.400 Corbon

Corbon 155 DPX

.40 SW

Federal 180 JHP  
Federal 180 HS  
Federal 165 HS  
Federal 155 HS  
Federal 135 HS  
Federal 135 EFMJ

Corbon 165 JHP  
Corbon 150 JHP  
Corbon 135 JHP  
Corbon 140 DPX

.357 SIG

Federal 125 JHP

Corbon 125 JHP  
Corbon 115 JHP

Corbon 125 DPX

.357 MAG

Federal 158 HS  
Federal 130 HS  
Federal 158 JHP  
Federal 125 JHP

Corbon 140 JHP  
Corbon 125 JHP  
Corbon 110 JHP  
Corbon 125 DPX

.38 SPL

Federal 125 HS +P

Corbon 125 JHP +P  
Corbon 110 JHP +P  
Corbon 110 DPX +P

9 mm

Federal 115 JHP  
Federal 147 HS  
Federal 135 HS  
Federal 124 HS  
Federal 105 EFMJ

Corbon 125 JHP +P  
Corbon 115 JHP +P  
Corbon 90 JHP +P  
Corbon 115 DPX +P

.380 ACP

Winchester 95 SXT  
Winchester 85 ST

Federal 90 HS

Corbon 90 JHP  
Corbon 80 DPX  
Corbon 70 Pow'rball

.32 ACP

Winchester 71 JHP  
Winchester 60 JHP

Federal 62 HS

Corbon 60 JHP

.32 MAG

Federal 85 JHP

.25 ACP

American Eagle 50 FMJ  
Winchester 50 FMJ  
Winchester 45 JHP

6/22/2007 1:45 PM

Follows below and we may need to add +P to a number of these, since we need a better manager at this end ;)

Heh. Shouldn't be a problem. In each case, we'll be doing one-inch increments from 18" on down, right?

6/22/2007 5:19 PM

That's what we'll go with for a start, then.

He thinks that about 2-3" is as short as we will be able to go. But that will do I would think. It should be similar to a revolver with no barrel past the frame. And he said a chop should be fine.

6/22/2007 5:35 PM

All that makes perfect sense to me. Do you have a chop saw?

7/25/2007 7:47 PM

The test platform and barrels are in. I hope to collect them Friday. Well, it would be like Christmas if I didn't have to write the check ;)

So we should have everything on hand now for the little experiment. Except time in the near future. Maybe I'll try to get the stuff down to you and you can play with it as your schedule allows.

7/26/2007 8:22 AM

As for the testing...there's no hurry on my end, though I think we should try and do it before the weather turns nasty in say Nov. I would certainly be willing to do the first round of ammo/barrels (before making any cuts) in order to get through the preliminary bugs, get the set-up worked out, et cetera. I think that would make the subsequent tests all go much more smoothly.

7/26/2007 5:15 PM

I will try to get the stuff down to you before then.

7/27/2007 3:49 PM

What a nice set-up for doing the tests! And what a weighty pile to bring to you, between the barrels and the ammo. :)

7/27/2007 7:08 PM

You're talking about just sending down the goodies, so that I can do the preliminary run-through? If so, that should be fine.

What a nice set-up for doing the tests! And what a weighty pile to bring to you, between the barrels and the ammo. :)

Um, did I miss something? Sorry, been fighting a migraine for the last couple of days, feel more than a little clueless.

7/27/2007 7:55 PM

I was going to bring the whole pile and let you play with it as you see fit. It will be late August before I can get down there for an extended stay and that will likely need to be a middle of the week thing. I think it's important to get the tests done in reasonably similar weather (at least avoiding the summer winter comparison) so perhaps your black powder buddy can help with things if my time craps out. By the way, do we need a bunch of Bore Snakes?

Here are the test calibers for the record again:

.25 auto  
.32 auto  
.32 mag  
.380 auto  
.38/.357  
.357 sig  
9 mm  
.40 SW  
.44spl/.44 mag  
.45 acp  
.45 colt

It will be great to get all of this data!

Um, did I miss something? Sorry, been fighting a migraine for the last couple of days, feel more than a little clueless.

Sorry to hear about the head trouble, but more explicitly, the 11 barrels, adapter flange, and frame, plus all of the ammo come up to something just shy of a lot of weight. And the flange system is great for quick change outs. It will be sad to end up destroying so much nice machining.

7/27/2007 9:58 PM

What, you don't think that we can get through all six thousand rounds or whatever it is



in an afternoon?

By the way, do we need a bunch of Bore Snakes?

Not a bad idea, actually. They're usually good for several calibers about the same actual size, so three or four would do us. Just do a wipe through after each set of ammo.

It will be great to get all of this data!

Indeed it will. I still think that setting up a website is the way to go. We'll have to remember to bring a digital camera, document the process.

7/28/2007 7:37 AM

What, you don't think that we can get through all six thousand rounds or whatever it is in an afternoon?

If we make up the numbers as we go and don't cut the barrels, good government studies in other words, maybe ;)

Not a bad idea, actually. They're usually good for several calibers about the same actual size, so three or four would do us. Just do a wipe through after each set of ammo.

Will get some.

7/29/2007 9:30 AM

I am thinking about bringing stuff down to you August 6 or 7. I know that it would really be an imposition to stay there, so I am planning to get a hotel room rather than day trip. Is either day better or would you prefer a different date?

7/29/2007 10:33 AM

I think either would be fine, but will confirm with Alix. Yeah, I wish we could host you, but anything like that is really problematic these days.

7/29/2007 1:42 PM

Checked the schedule, and the 6th would actually be a lot better - Alix has something going on the evening of the 7th, and I'll be stuck here at home. If you come down on the 6th we can at least get out for dinner together,

7/29/2007 1:49 PM

The 6th it will be then.

7/30/2007 6:17 PM

I have a room reserved and plan to arrive around 5 pm.

7/30/2007 8:05 PM

Cool. Would you be interested in meeting Steve [Meyer], perhaps seeing his collection? I think you guys will get along very well - he's got an undergrad degree in astrophysics, loves nice guns and decent Scotch... I can probably arrange a stop over at their place after we get things sorted here, perhaps after dinner?

Lemmeknow.

7/30/2007 8:25 PM

I'm up for it, but I leave the decision in your court as you are the one with the restricted social schedule and so I don't want to commit your evening off :)

7/30/2007 8:39 PM

Fair enough. I'll drop Steve a note, see what he and his missus have going on...

8/1/2007 10:51 AM

*[First time Meyer becomes part of the ongoing discussion.]*

Monday the 6th is good - are you and Jim meeting somewhere for supper?

Nothing's planned yet. He's going to come to the house and drop off the stuff for the test (platform, barrels, some thousands of rounds of ammo), and then we'll figure out where to go. Wish to join us?

8/5/2007 7:58 PM

[*Another lost email.*]

I have the stuff packed up to bring with me.

Safe travels.

I'm looking forward to seeing you and whatever plans are in order.

I am likewise looking forward to seeing you! No big plans at this point - figure you'll come here, we'll get stuff unloaded. Then decide on dinner, let Steve know and he can meet us, then take you to your hotel so you can drop off your vehicle, go forth and have dinner, thence over to Steve's for a wee dram and maybe check out his collection. I'll drive around town, since I know where I'm going (and am on-call tomorrow night anyway). Work for you?

8/7/2007 10:56 AM

...about the project: <http://communionblog.wordpress.com/2007/08/07/a-little-hint/>

Blogging about the whole thing is another aspect of documentation for me, and I figure we can just reproduce this stuff on the website as part of the archives when we get to that point. Thought you might be amused.

8/12/2007 7:44 PM

Oh, have done some research - would you have any desire to have a dedicated metal-cutting chop saw? This is the item I found at Home Depot:  
<http://www.homedepot.com/webapp/wcs/stores/servlet/ProductDisplay?storeId=10051&langId=-1&catalogId=10053&productId=100042983&N=10000003+90401+502949&marketID=401&locStoreNum=8125>

It'll handle up to 5" pipe or 2" solid stock, and seems fairly well suited to our uses.

If not, then I'll just get a standard chop saw and we can fit it with a metal cutting blade.

8/14/2007 2:00 PM

Sounds good to me.

So long as you can use it, then I'll get it. Not nearly as big as most of the conventional chop/mitre saws, as well.

8/15/2007 3:27 PM

I can always find uses for all of my tools, if not always on a regular basis :) So get the saw and let me know the bill. Also, get any bore snakes etc you think we need and include them in the accounting.

8/23/2007 11:12 AM

Speaking of fun, since it looks like we might actually get a break in the weather here this weekend, I might try and get out to do a bit of shooting. Thought I might take the 9mm barrel for the TC and see how it works mechanically. Won't be a full test, but will give me some idea of what we might need for the set-up. Will also be a good time to really scope out what arrangements we'll need to make for power, storage (I think I can get the in-laws to let me keep some bigger items out there, save having to haul them each way). I'll keep you posted.

8/26/2007 8:04 PM

So, Steve and I got out to the farm to do some shooting today. And I took along the TC/Encore with a couple of the barrels to familiarize myself with the system. The good news is that it works fine. Figured out the proper way to secure the barrels, fire it, et cetera - it's a fun platform with those 18" barrels! Shooting .357 mags out of it is like shooting a 9mm carbine, and popping off 9mm is like shooting my .22. Figured out some of the other logistics, and Steve is willing to help when I go out next to do a full run at the 18" lengths for data, also to help with the complete project when we're ready. I think with the three of us, we can get through it in a solid weekend.

The bad news is that when I looked inside the TC/Encore for the first time, I saw spots of surface rust. Huh? Looks like it wasn't properly lubed after the last time it was cleaned. I did a light cleaning after today's use, and lubed everything properly, will schedule a time to take it down and do a complete buffing of the interior surfaces. That should suffice for mechanical purposes, but there will likely be residual staining. Thought you should know.

8/26/2007 8:17 PM

...logistics, and Steve is willing to help when I go out next to do a full run at the 18" lengths for data, also to help with the complete project when we're ready. I think with the three of us, we can get through it in a solid weekend.

Great. I expected that most of the calibers won't be too bad until the barrels get pretty short.

do a complete buffing of the interior surfaces. That should suffice for mechanical purposes, but there will likely be residual staining. Thought you should know.

Doesn't sound like a real problem to me - except that you have to do some unexpected labor. :( Given the high humidity and air conditioning anything short of cosmoline might have trouble...

8/27/2007 11:43 AM

Great. I expected that most of the calibers won't be too bad until the barrels get pretty short.

It's kind of fun having that 18" bull barrel - really stable.

Doesn't sound like a real problem to me - except that you have to do some unexpected labor. :(

No worries. Everything's lubed, and a little work should make sure the problem does not recur anytime soon. But not today.

8/27/2007 3:55 PM

Just thought I'd let you know that I've just done a full inventory of the ammo, grouping it into the 13 groups for 11 barrels (.38 & .357 mag will double up, as will the .44 sp and the .44 mag). We have a total of 6700 rounds, all except five batches in increments of 100 rounds (those five each had 80 rounds). \*But\* we have 200 rounds of the .40 S&W Federal 180 gr Hydra-Shok - did you intend to have one of these being a 180 gr Hydra-Shok Low Recoil (which we have in the 135 gr).

I thought for the documentation, we'd list the Brand, the Weight, the Bullet type (FMJ, JHP, etc.). Perhaps I'll take a digital snap of each of the 67 different batches, which we could always tie on the website to the data tab, in case someone wanted to see the actual boxes for clarity of which particular ammo we used. If you (or Steve) have any other specs I should list, let me know.

8/27/2007 4:15 PM

I've lost my copy of the ammo list. I had hoped to do all 5 of the Federal 40s:

HydraShok 180, 165, 155

and the two low recoils:

Hydrashok 135 and EFMJ 135

If we have all of these it was an oversight - either in the Federal case doubled up or missing something else...

Sounds like a lot of ammo! :)

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We should list the batch number as well if it is on the box.

Also, If you get started on the data for the 18" barrels we should try to keep going soon after that to keep the temperatures during the test as consistent as possible.

Exciting!!

8/27/2007 4:36 PM

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HydraShok 180, 165, 155

and the two low recoils:

Hydrashok 135 and EFMJ 135

If we have all of these it was an oversight - either in the Federal case doubled up or missing something else...

We've got all those, and 180 'Personal Defense' JHP (the blue box). So it looks like an extra batch of 100. Good thing you like the .40. ;)

Sounds like a lot of ammo! ;)

Certainly is. If we do 3 rounds per type per length, then we're looking at 51 rounds of each type (assuming we'll stop at 2" barrels). That gives us enough slop for test shots & calibrations, et cetera. Frankly, we could probably go to 4 rounds per type per length (68 rounds total) and still have plenty of 'slop', even with the 5 batches where we only have 80 rounds available. From the experience of shooting the gun, adding in the extra shot wouldn't add that much time overall, though obviously it would add some.

We should list the batch number as well if it is on the box.

Well, we have something over 350 individual boxes of ammo. Do you think that it is really pertinent? I've left them all taped together in groups, just keep it simple to handle them.

Also, If you get started on the data for the 18" barrels we should try to keep going soon after that to keep the temperatures during the test as consistent as possible.

Or we could do that initial run to work out all the kinks, and then hope for a day which will be similar - and reshoot that batch if it isn't. Given that we'll likely see a 15 - 20 degree temp variation in the course of a single day's shooting, not sure whether that level of concern is worth it.

I suppose we could set up at a local indoor range, instead? That'd give us another variable controlled. But that strikes me as a fairly major PITA.

Exciting!!

Yes, indeed. Steve and I were talking about the whole thing, and looking at the logistics - all should go pretty smoothly. Now that I have compiled the ammo, Alix and I can talk about how to arrange the spreadsheet and website design as well. And once my camera is fully charged, I'll start documenting the pile of goodies here. Having everything visually documented from start through the finish will be a good component.

8/27/2007 5:19 PM

Certainly is. If we do 3 rounds per type per length, then we're looking at 51 rounds of each type (assuming we'll stop at 2" barrels). That gives us enough slop for test shots & calibrations, et cetera. Frankly, we could probably go to 4 rounds per type per length (68 rounds total) and still have plenty of 'slop', even with the 5 batches where we only have 80 rounds available. From the experience of shooting the gun, adding in the extra shot wouldn't add that much time overall, though obviously it would add some.

I knew there was extra "just in Case" and if things look like they will go well four rounds per is fine.

Well, we have something over 350 individual boxes of ammo. Do you think that it is really pertinent? I've left them all taped together in groups, just keep keep it simple to handle them.

I was thinking if each ammo type was from only one batch it might be nice to do. The magazines do so, but it seems to me it's to fill space. But if they are spread all over there is nothing to gain from it in any sense.

Or we could do that initial run to work out all the kinks, and then hope for a day which will be similar - and reshoot that batch if it isn't. Given that we'll likely see a 15 - 20 degree temp variation in the course of a single day's shooting, not sure whether that level of concern is worth it.

You could refrigerate a few rounds and the barrel and then try it at the beginning of a shoot to compare on the same afternoon to high temperatures after the barrel comes to outside temperature...



I have some dim memory about some kind of ammo being somewhat temperature sensitive. I would hate to have a widely variable error that was not even really systematic :)

8/28/2007 7:22 AM

I knew there was extra "just in Case" and if things look like they will go well four rounds per is fine.

That's reasonable.

I was thinking if each ammo type was from only one batch it might be nice to do. The magazines do so, but it seems to me it's to fill space. But if they are spread all over there is nothing to gain from it in any sense.

The more I think about this, the more I think that we should log all the lot info. Now, I personally think that commercial high-quality ammo is likely to have pretty strict production controls to maintain uniform quality, and the chances are that we'd not get any weird batches. But if we don't document the lot numbers, people could try and claim that this was a factor.

Now, the place where it should be noted is with each test length - because only by tying it to each data point is the information potentially valuable. So, on the test sheets we set up (I was figuring that we'd just do it on paper, then enter it all into the spreadsheet after) I'll add in a place to note the actual lot numbers for the ammo used.

You could refrigerate a few rounds and the barrel and then try it at the beginning of a shoot to compare on the same afternoon to high temperatures after the barrel comes to outside temperature...

Nah, makes more sense that we should also use some non-test gun as a periodic 'calibration' of the chronos, shooting the same ammo each and every time to demonstrate we're not getting some kind of drift due to temp or humidity or some other variable.

I have some dim memory about some kind of ammo being somewhat temperature sensitive. I would hate to have a widely variable error that was not even really systematic :)

You know, having a temp sensitive self-defense ammo would seriously suck. "Ooops, sorry, don't attack me now - my ammo's cold."

8/28/2007 4:38 PM

*[Pictures of all the ammo stacked up.]*

The arcology of bullets.

8/28/2007 8:03 PM

*[Another lost email.]*

Interesting word - either the beginning of something or political science according to our OED.

Ah. Probably not up on the variation used in SF to mean an intense concentration of population, like a super-skyscraper or artificial satellite. Which was how I meant it. The stacks were reminiscent of a city...

Went through and took pics of all the ammo, caliber by caliber, so that we can link each entry on the website to a JPG and people can see for themselves which exact box of what ammo we're talking about. I'll attach one so you can see. Tomorrow will likely do the rest of the preliminary photo docs (the testing platform, barrels, et cetera) and spend some time working through spreadsheet design with Alix.

If you go to this site [www.qcmusicians.net](http://www.qcmusicians.net) and look under pimping gigs (or the like) and then The Lovedogs, you can see our schedule. At this time Sam says we are not taking on any more dates (except possibly Dec 29). I will be out of town October 14-21. Do we want to start looking at possible research dates?

I'll take a look. AFAIK, only the weekend of 9/15 is tied up here, since Alix has a music thing. Our anniversary is 10/2, so I'd be inclined to avoid that. Otherwise, we're partly at the whims of how MMIL is doing.

> Also, do we need reamers for the clean-up after the saw cuts?

I don't think we will, but we won't know for sure until we make the first chop. I've got a Dremel tool, and round files.

8/28/2007 8:34 PM

Ah. Probably not up on the variation used in SF to mean an intense concentration of population, like a super-skyscraper or artificial satellite. Which was how I meant it. The stacks were reminiscent of a city...

They certainly were. And it seems that it isn't just music slang I'm not up on ;)

Went through and took pics of all the ammo, caliber by caliber, so that we can link each entry on the website to a JPG and people can see for themselves which exact box of what ammo we're talking about. I'll attach one so you can see. Tomorrow will likely do the rest of the preliminary photo docs (the testing platform, barrels, et cetera) and spend some time working through spreadsheet design with Alix.

I need to collect the twist from each of the barrel cut-offs and get them to you for the data bank...

8/28/2007 9:30 PM

Twisted! Yeah, probably wise to have that eventually just in the interests of completeness, but there's no rush.

8/30/2007 9:03 PM

Not a lot to tell here. Looks like Alix has the spread-sheet for the data all set, she'll run it by Steve tomorrow night at music and see what he thinks. I got the rest of the "before" pics done.

9/1/2007 7:35 AM

Steve liked the spreadsheet Alix came up with, just suggested that we might want to have a place to record ambient temperature. We've got some digital thermoms that we can use for that.

9/1/2007 8:22 AM

I keep thinking about the temperature thing. I think it is a good idea to use a standard (as you suggested) or run a quick refrigerator test. Even if the effect is only a few feet

per sec if we do the tests over enough of a temp range it will add unnecessarily to the scatter of the data. I wouldn't guess that for the longer barrel higher velocity ammo this would be too bad, but for the mouse ammo in the shorter barrels it (if it actually exists) might begin to be on par with the change from the barrel decrement.

Does Steve have any feel for whether there is any real temp effect? Have you looked into this on the web --- I know, I should have thought to do it too :)

9/1/2007 2:30 PM

I haven't looked yet, but will attempt to do so. Steve, what are your thoughts? Do you think that this is a significant factor that we should try and control for, and if so, how? I mean, temp will change the density of the air (as will humidity changes). This will certainly have an effect on velocity according to sectional density of the bullets (I would guess), but are we talking a significant %? I mean, short of conducting all the tests in a controlled environment, what are our options?

Also, in considering how long this will take... according to my calculations, if we average one bullet firing per minute, we have almost 80 hours of shooting to do...

9/1/2007 6:04 PM

A very long weekend indeed! :)

9/1/2007 6:35 PM

The only effect temp will have on the test that I can see is if we have significantly different temps in the course of evaluating one round, ie if it's 100\* for .357 Sig using the 16" barrel but only 33\* when we do the 4" barrel it might reasonably be argued that the temp of the ammo (which does affect powder burn rate) and barrel (unlikely altering dimensions) was affecting our results.

Any other temperature effects like air density, ballistic coefficient or sweat exuded by the testers (ewww...) really won't affect velocities, though we could say we at least thought of 'em. Reporting the temps along with the other data would add credibility to our otherwise incredible compendium.

9/1/2007 9:15 PM

Reporting the temps along with the other data would add credibility to our otherwise incredible compendium.

That's good enough for me, so long as we record the temps and the 'calibration' shots to doc any drift.

9/10/2007 3:49 PM

[*Another lost email.*]

as you can see it will be November before I can get there to do tests (that combines your October 6 anniversary and my October 20 interring Bob's ashes in California). Sam tells me that the only date that might be added to the schedule is Dec 29 so we can at least make some more or less believable plans for all three of us to get together or just you two Mo'erians.

Righto. I'll pass that along to Steve, see what looks good for him. Too bad I can't just go through and do all the cuts, get that out of the way, eh? ;)

Will probably pick up the chop saw Wed. Need to go over to Home Depot for something else, and have a 10% off coupon that's only good this week. Might as well save the extra.

9/12/2007 4:41 PM

Picked up the saw at Home Depot. With the discount, then tax, comes to a touch over \$175. Looks like a very solid unit - I opened it up to check that everything is there (seems to be). Weighs enough - about 60 pounds.

You sure I can't get those barrels cut up in advance, save some time? I figure duct tape should be strong enough to hold 'em attached for each series of shots...

9/12/2007 5:09 PM

Go around at least twice and it should be ok ;)

9/15/2007 8:10 AM

So should we set aside some weekends next spring for the ammo tests? ;)

9/16/2007 11:41 AM

Well I'm not against doing some in November or December once things settle for you enough to figure out which non-playing weekends are ok.

9/23/2007 8:04 PM

Talked with Steve, and we were wondering whether maybe a couple of three-day weekends might be the best for doing the ballistic tests, or a couple of days during the week. He can take the time off, and with a bit of planning so can I. Anyway, I'll send him the info for your band schedule, and we can try and sort things out from there.

9/24/2007 7:26 AM

Whatever works out for you two is fine with me. Outside of a couple of easily moved things my only real weekday constraint is the west coast trip Oct 14-21.

9/24/2007 11:41 AM

And Steve is gone 20-25, so we're realistically looking at the end of the month or getting into November. I'll send a separate email to you and him to get the discussion going all the way around.

11/8/2007 4:57 PM

Twist...and test

All of the barrels are 1 in 16 except the .25 acp which is 1 in 10. Unless of course I am mis-reading them.

11/8/2007 5:01 PM

So, when we get under 16", will be have to do it in fractions-per-remaining barrel length? ;)

12/14/2007 10:52 AM

Good instinct. I've been thinking that we should just set aside a couple of long weekend dates in like March and/or April to do the ballistics tests - that way we have the time blocked out, and can just plan on getting it done. Thoughts?

No doubt about it. The band schedule is already filling up. I will try and get a list of dates so we can get something blocked out.

12/22/2007 11:06 AM

Here are the known dates fresh as of this morning. If there any spaces you would like me to hold for the tests let me know.

1/2/2008 12:39 PM

Understood. I dropped a note to Steve asking about dates in March/April for doing the tests, haven't heard back from him.

1/5/2008 9:30 PM

Here are the known dates fresh as of this morning. If there any spaces you would like me to hold for the tests let me know.

Steve and I chatted a bit about this today. He says pretty much any time in March or April is good for him, as it is for me. Why don't you just pick a couple of weekends that suit you and let's schedule the tests.

1/6/2008 11:57 AM

Looking at the schedule I see Mar 14, Apr 5 and 12. I will check and make sure they are still open. I am ok with using all of them, but hesitate to commit your time :)

1/10/2008 7:13 PM

How about planning for the weekend of March 15th for the first go at the testing. After that we should know a little more for planning the future dates.

1/10/2008 8:12 PM

Beware the Ides of . . .

Nah, sounds fine by me. 4 days?

1/11/2008 9:09 AM

I am flexible as to arrival and departure. How many days do you to want to put it?

1/14/2008 4:45 PM

Got the packet in the mail. Thanks for both articles (I've only glanced at them so far) - interesting to see the shotgun chop project! But ours will be much better! :)

I'll be sure to share that with Steve once I'm done.

1/16/2008 12:45 PM

Glad you got the articles. I considered getting Steve's address and sending him one, but I figured you two see each other enough to pass it along.

Not a problem. Alix is going over there Friday night for music, she can take it then.

Say, think we should contact the editor at The Small Arms Review with a heads-up about our project? We'll want to have some kind of coverage in the gun mags to help get the word out about the project and our website (once that is all done) - doing a little advance work would not be a bad idea. If you subscribe, you could do it, or on the basis of my writing experience I could. Just let me know what you think.

1/16/2008 7:50 PM

It might be a good idea to contact a magazine. But perhaps we should wait until we are actually getting data. I would hate to experience the MS/Gates response to competition. :)



1/16/2008 9:17 PM

Hmm. It's a thought, though I would be surprised to see anyone else jump into this in such a complete and comprehensive way. No matter, once we have the website past beta testing, the thing will go off like a bomb in the gun world.

1/23/2008 6:59 PM

Here is some new ammo to consider.

.327 Federal magnum - we would have to modify the .32 magnum barrel and it's not clear when it will begin wide scale delivery

and Buffalo Bore has .32 acp and .380 auto in much more serious versions:

<http://www.buffalobore.com/ammunition/default.htm#380>

and they some interesting versions of other calibers, too.

My gut reaction is that we have enough on the table for the time being. But I will try to get the .32 and .380 so I can have John do gelatin tests.

1/24/2008 7:39 AM

No matter what we do, there will be new ammo/more ammo/handloads out there that we haven't tested. That's just a fact. As comprehensive as we try to be, the data will be somewhat incomplete. That does not negate the value of the project, the way I see it - so long as we get a solid sampling of what is available, and what performs over the barrel lengths, people will still be able to make some intelligent decisions about what weapon and ammo to use for a given purpose.

I haven't gone back to look at the lists, but the only real addition I have thought of (if it isn't on there) would be some ammo which is specifically designed for short-barreled pistols - such as the Speer Gold Dot HP +P .38 135gr Short-Barrel. It would be interesting to see whether that stuff actually performs differently than the other ammo we have in that caliber.

1/24/2008 8:14 AM

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I agree that it doesn't negate the value. With the test schedule being pretty diffuse I keep thinking I should pick up promising/interesting new stuff as it comes out. But I don't want to add another week of test time to the project either which is really more of a concern to me.

- so long as we get a solid sampling of what is available, and what performs over the barrel lengths, people will still be able to make some intelligent decisions about what weapon and ammo to use for a given purpose.

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...of short barrel ammo :)

I'll try and get some of those. I don't recall seeing them listed when I did the original searches and purchases.

1/24/2008 10:11 AM

I agree that it doesn't negate the value. With the test schedule being pretty diffuse I keep thinking I should pick up promising/interesting new stuff as it comes out. But I don't want to add another week of test time to the project either which is really more of a concern to me.

Well, I'm perfectly willing to put in the time to do it right, with no qualms in that regard. Steve seems more than willing to help, and I think he has a fair amount of flexibility in terms of his work schedule. So from our end, don't let the time commitment be a limiting factor - if there are other ammos you wish to test, then I say go for it. I just think that we don't want to fall into the trap of trying to have every ammo on the planet, because at some point we hit a diminishing returns on what information the data provides.

...of short barrel ammo :)

I'll try and get some of those. I don't recall seeing them listed when I did the

original searches and purchases.

I just checked the sheets listing all the ammo - there's no Speer Gold Dots in any of the calibers. So no need to worry about duplicating anything.

1/24/2008 11:15 AM

I put in for the following:

Speer Gold Dot Short barrel ammo 100 rounds each in the following

.38 spl +P 135 gr  
.40 SW 180 gr  
.44 mag 200 gr  
9mm +P 124 gr  
.45 acp 230 gr

1/24/2008 1:13 PM

That should do it. I think it's a good addition to the project.

2/4/2008 3:14 PM

Three of the 5 short barrel Speer's are here - missing the .45 acp and the .38 spc, have the .44 mag, 9mm and .40 SW.

2/11/2008 4:21 PM

And it's only about a month until the first ammo tests. Are you sure this isn't the "new" spring weather?

2/19/2008 8:31 AM

[Missing email.]

If all else fails we can hire John E. [Brassfetcher] to do it coupled with gelatin tests. That ought to keep him busy a couple of years :)

No way am I letting him have all the fun! At worst I get a small generator (which isn't a bad idea on it's own) or you have to put up with me and Steve coming up there for the shooting sessions!

Even with our fun weather? ;)

2/23/2008 8:12 AM

John E asked about a url for the ammo tests. Did you already get one set up?

Here are a few bits from our discussions [*John E of Brassfetcher in italics*]:

*The greater the distance between the screens, supposedly the more representative the velocity reading is. IE, if screen one reads 3000 ft/sec, screen two at 15 feet away reads 2935 ft/sec (say) and screen two reads 2875 ft/sec at 15 feet away from that, there is more certainty about the numbers because there is less uniformity to response of the sensor to the time that the shadow of the bullet acts on each sensor. If there is some peculiarity to the accuracy of the sensors (that is a function of the bullet velocity), varying the velocity that each screen sees can only increase the chances that the average velocity (of the three screens) that the chronograph delivers to you is as close to the average as is practical.*

*That's some statistical trick that I learned recently - fortunately, the job of statistician was created, so that I don't have to delve more deeply into that subject. JE*

--

*I think that your concerns on the thermal effects of the gun are good ones. Is there a particular reason that you want to try a .38 Special for this test? As far as thermal stability of a cartridge : be careful when cooling or heating ammunition. Smokeless powder tends to produce higher pressures with increasing temperature and lower pressure with lower temperature. But there is a point below a critical temperature where smokeless powder grains will start to crack from the cold temperature. This exposes greater surface area, causing the powder to ignite faster than originally designed. Pressures will then spike and the gun can explode. This temperature, of course, varies with the make of the powder. I froze some .380ACP Federal 90gr Hydra-Shok recently, down to ~ -10degF. The chrono was not working, but the expansion on the bullet was a full 10% larger diameter (which indicates to me that the impact velocities were higher). The penetrations that I got were at least 1.5" shallower than the previously-shot 10 shot group into gelatin, with the cartridges at ~ 80degF. That was the same lot of ammo from the same gun. Scary stuff. Be*

*careful. Or use a Ransom rest. Hehehehe. JE*

That bit about the fracturing of the powder lumps is great! As to .38, mostly I was thinking of doing the test with a revolver. Less extra metal to monkey around with while stabilizing the temps. But on reconsidering, I would probably get another 9 mm barrel for the T/C. No cylinder gap changing dimensions as well as less metal. JK

--

*Have you considered firing a handful of 'cutting rounds' through the barrel, when brand new? In my limited experience with velocity as a function of barrel life, I have noticed maybe a 10 ft/sec difference between a new barrel and a barrel that has had 100 or so rounds through it. JE*

We have had several discussions about how much ammo to run through before starting the tests. And part of that has been the number of rounds that will going through for some of the calibers. There are quite a few 9mm rounds qualifying as defense type - I don't recall how many we have but let's say 10 types - at 3 rounds per ammo per inch going from 18" to 1" that's 540 rounds. But for .25 acp there are something like 4 if one includes ball ammo we use 216 rounds. Without a clear defining line where barrel wear starts and stops along with my other concern which is whether there will be any effect from barrel heating on the numbers I think, subject to the discussions when we actually set the protocol to paper, we might run some 5 to 10 rounds before starting. JK

*Not a big deal, but you never know. On the other extreme, the concern of a worn barrel, I got to see a Beretta 92 barrel that exploded, the other day.*

*The person who showed it to me mentioned that the gun was shot well beyond its 'mean time between failures' life - which is interesting to me in that the only part that failed, was the barrel! The MTBF figure, IIRC, is obtained by taking a note of the amount of usage of a statistically valid number of actual models (guns, planes, aircraft parts, widgets, etc), being used in the field, and getting a mean value of rounds fired, hours flown, etc, before a major part failed.*

*Anyways, when the person told me that the barrel/gun was well worn - I decided to look at the rifling. It was about as new in appearance as a factory fresh gun - with no throat or muzzle erosion visible. I think that pistol barrels are safe from the concern of 'shooting out', at least from seeing that barrel, I get that impression...? JE*

2/24/2008 8:11 AM

John E asked about a url for the ammo tests. Did you already get one set up? Nope. No hurry to do so, and I wanted to brainstorm with you and Steve about a memorable URL. Won't be an issue until we have the data and images.

Here are a few bits from our discussions:

Thanks! Good info there - particularly on the location of the chrono screens. I would not have thought of that.

I know you were discussing other tests with him, but the issue of something resembling control on the temp of the ammo is a good idea for us as well. And I would think could be addressed by simply taking the ammo out in a decent cooler. We'll need to decide on exactly what procedures we want to use.

2/29/2008 12:16 PM

It looks like I will take part in a meeting the week of either Mar 10 or 17 (no Fridays so I can still come down if things are still ok on your end and the weather holds :))

Sure. When were you thinking about coming down, anyway? Should probably let Steve know, so he can plan time off from work. We're going out tomorrow to do a bit of shooting with the new guns, and to scope out places for conducting the tests. My schedule is open, so whenever is fine. And unless it is just ridiculously bad weather, I say we go for it. I was thinking that I'll set up my 10x20 cabin tent (wherever) which has two large sections. One we can use for the shooting platform area, protected by wind/sun/rain, the other for a work/storage area. The canvas shouldn't do anything to magnify sound, and we can have it open enough to allow for good ventilation while still maintaining protection from the elements. If need be, we can even set up a portable heater to help control for temp somewhat.

2/29/2008 3:40 PM

At one point you mentioned four days of testing. I was waiting to see how that idea panned out to check and see if you were serious. I may need to be back on the Sunday evening as I'm waiting for Jeff to let me know what Monday is scheduled for my show

and tell (and glowering stares from the powers that dislike me).

I'm not worried about adding to the sound level for most of the rounds :)

2/29/2008 4:24 PM

Yeah, I was about the time commitment. So was Steve. Spend the time necessary to do it in a couple of long weekends - doing three or four days worth of tests, with time on either end for set-up and take down, as needed, and to allow you travel time. I figure in addition to a cooler for the ammo, we'll take out a cooler with sandwich makin's and drinks - and maybe a coffee pot, if it's cold - so we just spend the whole day out at the farm each day.

I may need to be back on the Sunday evening as I'm waiting for Jeff to let me know what Monday is scheduled for my show and tell (and glowering stares from the powers that dislike me).

Righto - we'll figure just conducting tests through Saturday, then. So, wanna come down on Wednesday, then do three days of tests? Steve and I can go out on Wednesday and get the tent up, some of the other stuff positioned.

2/29/2008 4:57 PM

Sounds fine to me. And as I recall one of the two chronographs was owned by someone else? I really like the idea of doing this with two. We should pick one up at your gun shop.

2/29/2008 7:30 PM

Nope - the one I have here is Steve's. So, if you have one already, we're good.

Dropped Steve a note with the previous message bits about the testing. He's cool with it. We're going out tomorrow afternoon after it's had a chance to warm up some, will sort things out further.

3/1/2008 6:24 AM

Nope - the one I have here is Steve's. So, if you have one already, we're good.

I don't and it would be nice to share the sales with someone at your end if it can be done in time.

And speaking of supplies, if we need any Bore Snakes and related, round file/reamer/dremel stones and tool to take care of burrs in the barrel after the cuts we should get them. And any other items. I can bring checks for repaying for such.

We probably should begin to think seriously about protocol. Perhaps rotating where a type of ammo is in the shoot order after each cut. Say we had three types - A,B,C - then at 18" go 3A, 3B,3C. At 17" 3B,3A,3C. Or some such so that each type of ammo is shot before and after each of the others. By sticking to the groups it would be \*much\* easier than mixing them on a one by one basis. It might not matter much for ammo that is all roughly the same pressure (although there will be more heat at the end of test run than the beginning) , but when we do the .38/.357 I expect there will be more heat from the mag rounds and we might like to randomize any effects.

I think it would be good to start with one of the low type varieties. After that do we want to decide what to follow with or should we take this first go to work on the small variety types and leave the larger groups for the next go? Or some of each?

Also, I am waiting on the new .327 mag ammo but it would necessitate re-head spacing the .32 H&R barrel - which is not a problem - but we should think about it before cutting it up :)

And I'm willing to bet I've forgotten other things to consider...

3/1/2008 8:27 AM

And speaking of supplies, if we need any Bore Snakes and related, round file/reamer/dremel stones and tool to take care of burrs in the barrel after the cuts we should get them. And any other items. I can bring checks for repaying for such.

Righto. I will check with Steve and see what he has, and what he thinks is suitable, and secure the rest of the items.

We probably should begin to think seriously about protocol. Perhaps rotating where a type of ammo is in the shoot order after each cut.

That makes a certain amount of sense to me. With the printed-out spreadsheets, we can just put an asterisk in the shooting sequence each time to show where we started, and



then note that on the website when we transfer the data.

I think we should also be doing three or four calibers in rotation, to give time for the clean-up work to be done on the barrels after each chop. That will also give things some time to reach heat stability. Unless you think that it is important to try and get all the data for a given caliber in as short a time-frame as possible.

I think it would be good to start with one of the low type varieties. After that do we want to decide what to follow with or should we take this first go to work on the small variety types and leave the larger groups for the next go? Or some of each?

Not sure it really matters.

Also, I am waiting on the new .327 mag ammo but it would necessitate re-head spacing the .32 H&R barrel - which is not a problem - but we should think about it before cutting it up :)

Steve, is this something you could do? Or should I send that barrel back to the smith?

And I'm willing to bet I've forgotten other things to consider...

We've got 10 days to think of things.

3/1/2008 9:02 AM

Righto. I will check with Steve and see what he has, and what he thinks is suitable, and secure the rest of the items.

Sounds good.

I just remembered we will need a stick to push out the cases.

That makes a certain amount of sense to me. With the printed-out spreadsheets, we can just put an asterisk in the shooting sequence each time to show where we started, and then note that on the website when we transfer the data.

Or we can even put little 1-2-3 in the boxes to indicate order.

I think we should also be doing three or four calibers in rotation, to give time for

the clean-up work to be done on the barrels after each chop. That will also give things some time to reach heat stability.

Unless you think that it is important to try and get all the data for a given caliber in as short a time-frame as possible.

I like the rotation idea. My only concern as to getting the data in a short time frame is that we should try to keep all of the data for a given barrel within some reasonable temp range. I don't think it really matters if the data is taken over several days if the temps are say within 10 F or so.

Not sure it really matters.

Only as regard temps as noted above.

3/1/2008 10:49 PM

Sounds good.

Discussed it with Steve today, we've got the de-burring covered. I'll do an inventory, get the appropriate bore snakes and another chrono.

I just remembered we will need a stick to push out the cases.

My usual "range bag" has a cleaning kit in it, so I'll have a rod suitable to that purpose.

Or we can even put little 1-2-3 in the boxes to indicate order.

That works as well.

I like the rotation idea. My only concern as to getting the data in a short time frame is that we should try to keep all of the data for a given barrel within some reasonable temp range. I don't think it really matters if the data is taken over several days if the temps are say within 10 F or so.

Particularly if we are in the tent, that should be manageable.

Only as regard temps as noted above.

Righto.

So, we went out to the property and scoped things today. Have settled on the appropriate location - there's a old cabin built in the 60s out of railroad ties, roof mostly missing but the walls still very solid. I doubt anything we'll be testing would make it through a single wall, let alone out through a second wall, but we can supplement with some additional tree trunks if you feel that would be necessary. Location is easy to get to, right off a good gravel road so we won't need to worry about weather access. Nice flat, hard ground adjacent to the cabin suitable for setting up the tent. And for years we've had a dusk-to-dawn light there, power coming in from our rural co-op - the pole is about 20' from where we'll set up the tent. Alix will contact the co-op on Monday, and see if we can get them to install an all-weather outlet box there on the pole, in time for our needs. If so, we're good to go. If not, I'll pick up a small generator (not a bad thing to have for a variety of other reasons, anyway).

3/4/2008 7:03 AM

Say, Jim, were you going to bring down a gun rest/shooting bench? We hadn't talked about that for a bit, thought I should check and see.

Turns out I do need to get a generator - while we have a dusk-to-dawn light from the co-op out at the site, it is a multi-step, bureaucratic & expensive dance to get them to put in a simple outlet box on the pole, involving a permit from the county, licensed electricians, et cetera. That's OK, there are reasons to have a small generator anyway, and I'd been thinking I might get one for the last couple of years - this just gives me incentive.

Today I will also go through and determine what bore snakes, et cetera, are needed.

3/4/2008 7:20 AM

I have one of the Wichita 10 pounder gun rests. No bench though. And will we want to put a stop behind the butt or just us?

I have been thinking more about the ammo type order. I think the best way to do it is to maintain a given type order and cadence. Then with info about the barrel we can reasonably recreate any heating profile to take measurements and if we get the temp data corrections can be made as needed. Any "randomizing" will make the systematic error correction much more difficult.

Does anyone have a digital thermometer so we can keep track of the temperature during the course of the day?

Any thoughts on the bore snake regimen? Once after each set of three and a somewhat better go after each cut?

Unless things go awry it's only a week until I head south :)

3/5/2008 6:56 AM

I have one of the Wichita 10 pounder gun rests. No bench though. And will we want to put a stop behind the butt or just us?

OK, we've reached the limits of my knowledge. I don't know the rest tech. Do we need a stop behind the butt? The TC/E is just a pistol grip, after all, and it's not like we're shooting off cannon rounds.

Anyway, I have a couple of 6' banquet tables I was planning on bringing, and also have several other varieties of card tables and whatnot. Will one of those be sufficient for the 'bench'?

I have been thinking more about the ammo type order. I think the best way to do it is to maintain a given type order and cadence. Then with info about the barrel we can reasonably recreate any heating profile to take measurements and if we get the temp data corrections can be made as needed. Any "randomizing" will make the systematic error correction much more difficult.

That makes sense.

Does anyone have a digital thermometer so we can keep track of the temperature during the course of the day?

Well, I don't know about general thermometers, or ones designed to do a surface read off of equipment, but the digital medical thermometers on the market strike me as being basically undependable, unless you go for one of the really high end stuff. The several we tried with Martha Sr. over the last year were never consistent one to another, or even from multiple readings within a short time frame for themselves. It was, at best, only possible to establish a general trend.

Any thoughts on the bore snake regimen? Once after each set of three and a somewhat better go after each cut?

That would seem to work. After a cut, we'll want to do a quick de-burring, and then a couple of swabs through with the snake.

Unless things go awry it's only a week until I head south :)

Well, let's all keep our fingers crossed, then.

3/5/2008 7:13 AM

We don't have to have a stop behind. The idea with the rest is to replicate the starting position of the gun. The rest needs about 1 sq ft and can either sit on its three spike or smooth feet. We could use almost anything to get the same effect --- even the edge of the table with the butt sitting on the surface.

Maybe one small table for the actual shooting and a second larger one for the recording and fiddling with the barrel cuts and supplies?

Well, I don't know about general thermometers, or ones designed to do a surface read off of equipment, but the digital medical thermometers on the market strike me as being basically undependable, unless you go for one of the really high end stuff. The several we tried with Martha Sr. over the last year were never consistent one to another, or even from multiple readings within a short time frame for themselves. It was, at best, only possible to establish a general trend.

Sounds like a simple old style one to hang up on one of the tent posts :)  
Something that's still better "old school"! :)

It's not too late to do the tests here. We're in a spell of highs 20-30 lows about 15 and off and on snow for the coming week ;)

3/5/2008 11:31 AM

We don't have to have a stop behind. The idea with the rest is to replicate the starting position of the gun. The rest needs about 1 sq ft and can either sit on its three spike or smooth feet. We could use almost anything to get the same effect --- even the edge of the table with the butt sitting on the surface.

That works.

Maybe one small table for the actual shooting and a second larger one for the recording and fiddling with the barrel cuts and supplies?

Oh, I think we'll want to have one for just food and drinks, too, keep that stuff out of the way.

Sounds like a simple old style one to hang up on one of the tent posts :)  
Something that's still better "old school"! :)

Yeah, a lot of truth to that!

It's not too late to do the tests here. We're in a spell of highs 20-30 lows about 15 and off and on snow for the coming week ;)

Woo-hoo! Mostly in the 40s here, lows down into the mid 20s. We'll see how next week looks.

I checked the local stores (Bass Pro and Powderhorn), and no one has a chrono in stock. Sheesh. Dave from Powderhorn offered to just loan me his, but I think it would better to just get one. Does Finn & Feather have them? Should I see if I can have Powderhorn order one in in time? You can get them online and shipped fast, so that is another option.

Also have narrowed down the options for generators, and will make a purchase of one of those before the weekend is over. Jim, will you be bringing down your truck? It would make getting a medium-sized generator out there a lot simpler . . .

I will also tally what bore snakes we need, pick up the lot - just about every option is available locally. Meant to check that before I went out this morning, but oh well - at least I remembered to check supplies available.

3/5/2008 12:08 PM

I checked the local stores (Bass Pro and Powderhorn), and no one has a chrono in stock. Sheesh. Dave from Powderhorn offered to just loan me his, but I think it would better to just get one. Does Finn & Feather have them? Should I see if I can have Powderhorn order one in in time?

You can get them online and shipped fast, so that is another option.

Not that I know of. If you can get one in time at your end let's go for that.

Also have narrowed down the options for generators, and will make a purchase of one of those before the weekend is over. Jim, will you be bringing down your

truck? It would make getting a medium-sized generator out there a lot simpler . .

I can bring the truck.

3/5/2008 12:19 PM

Not that I know of. If you can get one in time at your end let's go for that.

Done. I called Powderhorn: Dave once again wanted to just loan me his, but this is better, given how much we will be using it. And it doesn't hurt to be loyal when it isn't necessary.

I can bring the truck.

Roadie Jim still at work. ;)

3/8/2008 5:33 PM

I started this list last week, and have been adding to it as I go. Look it over, and if you think that there is anything else we'll need, drop me a note. Columbia is only about 20 minutes from the site, but it would still be a bit of a pain to have to drive back and forth much.

One note - I think I have decided to go with a smaller generator rather than a bigger one. One I am considering is only about the size of a case of long-neck beer bottles. More convenient for using, easier to move, but only about half the power of the next size up (still more than sufficient to run our chop saw, some lights or other items we might want.) Only reason I note this is that it might change Jim's mind about bringing his truck.

Anyway, here's my list of things to have for the testing (categories fairly arbitrary):

Shooting stuff:

- Gun
- Barrels
- Ammo (in cooler for temp stability)
- Shooting rest
- Bore snakes & 'range box'

Hearing protection  
Chronos & batteries  
Data sheets  
Pencils

Equipment:

Tent  
Tables  
Chairs  
Saw & extra blade  
Dremel tool with de-burring bits  
Generator  
Extension cords  
Back-up lighting  
Tape measure  
Outdoor thermometer  
Sharpies  
Masking tape  
Gas & oil  
Digital cameras (video?)

Misc.

Cooler for food/drink  
Food  
Drink  
Trash bags  
TP  
Paper towels

A couple of questions . . .

Do we need to take some designated pistol/ammo to use as a "standard reference", checking the chronos periodically to establish any kind of drift due to environmental conditions or changes in equipment? Thoughts?

What kind of sandwich makin's, fruit, chips, munchies you guys prefer?

How about drinks? I'll bring out a case of H<sub>2</sub>O, but you want soda/juice? If so, give me preferences.



3/9/2008 8:14 PM

Do you think we will need it to move the other big things like table and chairs? It's not a problem to bring as I have to use something to get there :)

I will bring the Wichita rest unless I hear otherwise.

We have a pretty nice three color ccd video camera I can bring.

Do we need to take some designated pistol/ammo to use as a "standard reference", checking the chronos periodically to establish any kind of drift due to environmental conditions or changes in equipment? Thoughts?

There is something to be said for starting each length with three rounds and ending each length with the same type with three rounds. I expect that most of the test ammo will be pretty clean burning so it would be nice to do this begin/end with better quality ammo to keep from adding to the fouling. Also, as a control group better quality ammo will likely be more consistent speed and thus a more likely indicator of any drift. I doesn't really add too much time so maybe if you have a plan on what we are going to start with you could pick up the needed ammo.

What kind of sandwich makin's, fruit, chips, munchies you guys prefer?

I'm not big on grapes or the WOW fake oil chips. As to sandwich stuff, cheese, onions, lettuce and mustard is good but I'm not against other things. I plan on bring down bagels if that matters.

How about drinks? I'll bring out a case of H2O, but you want soda/juice? If so, give me preferences.

Any chance either of you have a fair sized thermos for coffee? Water is easy and plenty for me for the day duty time.

3/9/2008 8:55 PM

Steve and I went out to the farm to put in a new main gatepost (old one was rotting, got knocked over by someone) this afternoon. We also checked out the site for the shooting and discussed logistics somewhat further.

Do you think we will need it to move the other big things like table and chairs? It's not a problem to bring as I have to use something to get there :)

Well, it would make it easier. The gravel road in is rather rougher (and a lot longer) than your front drive, so that might not be the best on your car, too. But if needed, I can transport everything in my wagon.

I will bring the Wichita rest unless I hear otherwise.

Please do bring it.

We have a pretty nice three color ccd video camera I can bring.

Good idea. Steve and I will also each be bringing our digital cameras. The more, the better in this case - I think it will be a good idea to document the process with images and clips.

There is something to be said for starting each length with three rounds and ending each length with the same type with three rounds. I expect that most of the test ammo will be pretty clean burning so it would be nice to do this begin/end with better quality ammo to keep from adding to the fouling. Also, as a control group better quality ammo will likely be more consistent speed and thus a more likely indicator of any drift. I doesn't really add too much time so maybe if you have a plan on what we are going to start with you could pick up the needed ammo.

Sorry - I wasn't clear. I was thinking of something apart from our testing platform. Steve and I kicked it around, and I think just using the Python and standard factory load 130 gr bullets will do what we want - provide a reference point. It's a known quantity, and won't be altered at all as we go through.

Steve also had a good idea that we might want to use a few common pistols as 'real-world comparisons' - with some of the extra ammo when we get down to that length barrel (such as the .357 mag and .38 in my Python when we do the 6" tests on those barrels). In theory, anyone will be able to duplicate our tests in their own gun for a direct comparison to what we got from the Thompson "ideal". But doing it at the same time as we're conducting the tests, with the same-lot ammo, could provide a good reference point to real-world weapons (such as seeing how much loss may be attributable to the cylinder gap, for instance). I don't think we need to go nuts with this, but it wouldn't hurt to do a few such things.

Steve also had what sounds like a good idea for the website - using some ballistics/reloading software he has to show how it matches up to our experimental data. I'll leave it to him to explain further - it's not a big issue for conducting the tests, rather for later.

I'm not big on grapes or the WOW fake oil chips. As to sandwich stuff, cheese, onions, lettuce and mustard is good but I'm not against other things. I plan on bring' down bagels if that matters.

No fake WOW chips. Got it. I'll get a selection of cold cuts, then, and slice up some onions and whatnot. Bagels are fine, I also figured on a couple of loaves of decent bread - I usually like whole grains and ryes.

Any chance either of you have a fair sized thermos for coffee? Water is easy and plenty for me for the day duty time.

I'll either hunt down a decent thermos, or we'll just take out the coffee maker. Otherwise, water, and I may throw in some Coke classic.

3/10/2008 8:00 AM

Sorry - I wasn't clear. I was thinking of something apart from our testing platform. Steve and I kicked it around, and I think just using the Python and standard factory load 130 gr bullets will do what we want - provide a reference point. It's a known quantity, and won't be altered at all as we go through.

I like that even better!

Steve also had a good idea that we might want to use a few common pistols as 'real-world comparisons' - with some of the extra ammo when we get down to that length barrel (such as the .357 mag and .38 in my Python when we do the 6" tests on those barrels). In theory, anyone will be able to duplicate our tests in their own gun for a direct comparison to what we got from the Thompson "ideal". But doing it at the same time as we're conducting the tests, with the same-lot ammo, could provide a good reference point to real-world weapons (such as seeing how much loss may be attributable to the cylinder gap, for instance). I don't think we need to go nuts with this, but it wouldn't hurt to do a few such things.

You two are getting way too clever! Nice! Do you need for me to bring any odd caliber guns?

Steve also had what sounds like a good idea for the website - using some ballistics/reloading software he has to show how it matches up to our experimental data. I'll leave it to him to explain further - it's not a big issue for conducting the tests, rather for later.

I think I know what Steve is talking about and it is a great idea! A lot of people use it and it would be very nice to overlay real data.

3/10/2008 3:15 PM

You two are getting way too clever! Nice! Do you need for me to bring any odd caliber guns?

Only ones in whole numbers - for barrel length, that is. ;)

Seriously, not sure how much of that stuff we want to do, but some head-to-head match ups between the Thompson platform and 'real world' guns will provide some reference points, I think. My Python at 6", my 642 at 2" (close enough) are good data points for the .38/.357. We've got .45s in 5" (both of the Kimbers you have are 5", right, Steve? ) What else would you guys like to have? I've got that 9mm carbine in 16", but the Steyr's aren't in whole inches.

I think I know what Steve is talking about and it is a great idea! A lot of people use it and it would be very nice to overlay real data.

OK, I'll let you guys explain it to Alix, when we get to the point of setting up the website and publishing everything.

3/11/2008 8:31 AM

At this point I'm inclined to make use of whatever you two feel is a good idea and have down there - unless you want to make firm suggestions for calibers for me to bring down if I have them in the requisite barrels.

I am hoping to arrive in Columbia by 1 pm. Should I eat along the way, plan on eating with you down there before going to set up or call along the way to decide?

3/11/2008 8:53 AM

Well, given how popular they are, I would say that both a .44 and a .40 S&W would be good ones to reference this way, if you have pistols in suitable whole-number barrel lengths. .357 Sig would be the only other one which I would particularly worry about, though I'm sure there are people who would want to see a .380 and a .32 ACP as well.

But if you don't want to drag down a buttload of pistols, that's OK - we're not going to get through all the calibers this round of testing, anyway. It may make more sense for us to do stuff we already have here, so we'll have a better idea for future tests what else might be good to peg to reality this way.

I am hoping to arrive in Columbia by 1 pm. Should I eat along the way, plan on eating with you down there before going to set up or call along the way to decide?

Ah, that soon! Cool - I wasn't expecting to see you until later in the day. Steve and I have tentatively planned to meet for lunch at a nice little Thai place downtown, then go from there out to the farm to set up the tent (a two person job) and drop off some other stuff I won't mind leaving out there. We can certainly push that back a bit, if you want to meet me here at the house when you get in - then we'll give Steve a call, meet him for lunch, then out to the farm and you can see for yourself the test site.

Oh, and it'll be 70 here tomorrow. :)

Cooling off after, down into the 50s through the weekend. Some chance of rain.

3/11/2008 10:33 AM

Let's go with doing what you have there first. John E says that the chrono measures for the short barrels (most likely what I would have for the small calibers) are very gun specific varying pretty widely even from the same manufacturer.

Ah, that soon! Cool - I wasn't expecting to see you until later in the day. Steve and I have tentatively planned to meet for lunch at a nice little Thai place downtown, then go from there out to the farm to set up the tent (a two person job) and drop off some other stuff I won't mind leaving out there. We can certainly push that back a bit, if you want to meet me here at the house when you get in - then we'll give Steve a call, meet him for lunch, then out to the farm and you can see for yourself the test site.

Sounds good to me.

Oh, and it'll be 70 here tomorrow. :)

I'll bring my tanning suit :)

Cooling off after, down into the 50s through the weekend. Some chance of rain.

Speaking of rain, is footwear appropriate for mud suggested?

3/11/2008 7:23 PM

Let's go with doing what you have there first. John E says that the chrono measures for the short barrels (most likely what I would have for the small calibers) are very gun specific varying pretty widely even from the same manufacturer.

Makes sense to me. We'll go with the stuff we have. Steve, you want to bring out a Kimber?

Sounds good to me.

Is a plan, then. See you here at the house. We'll call Steve when we head downtown.

I'll bring my tanning suit :)

No way, man - the glare off your white skin will make it impossible for us to read the readouts on the chronos.

Speaking of rain, is footwear appropriate for mud suggested?

There will be a bit, but it is mostly rocky (we're on top of a ridge). Do we need to plan for setting up tarps over the chronos so that rain doesn't slow down the bullets a bit?

I got the generator this afternoon, and set it up and ran it this evening. We've got power. Still need to get the food and second chrono tomorrow, but that's no big deal.

Otherwise, I think things are shaping up pretty well. I have some other stuff to double check tomorrow morning, but for the most part everything is here and accounted for. Oh, I only have one 6' banquet table - but I have other card tables and things. But if either of you has a fairly stable folding table, let me know - I want something with a little heft for the table with the saw. Otherwise, I will make other arrangements.

3/17/2008 6:49 AM

Glad to hear you got home without trouble.

I wonder whether we should 'adopt' this for our future website, with some tweaks:

<http://xkcd.com/397/>

3/19/2008 11:28 AM

Just musing about possible web site names and I checked out a few

goballistic.com is taken (no surprise)

lengthmatters.com is taken (no surprise there, either!) (grin)

jjstests.com and/or .org is available

3/19/2008 2:03 PM

Here's a few I just checked that are available:

[ammobytheinch.com](http://ammobytheinch.com) (et cetera = .etc)

[ballisticsbytheinch.etc](http://ballisticsbytheinch.etc)

[handgunballistics.org](http://handgunballistics.org)

[pistolballistics.org](http://pistolballistics.org)

These are registered, but available for a premium:

[handgunballistics.com](http://handgunballistics.com)

[pistolballistics.com](http://pistolballistics.com)

I think that we could certainly do a .org, since we're not planning on selling anything or whatever. In fact, I think that having it as a .org (and possibly with a redirect off of other .etc) makes more sense, indicating that we expect nothing to gain from it.

3/19/2008 3:45 PM

Here's a few I just checked that are available:

[ammobytheinch.com](http://ammobytheinch.com) (et cetera = .etc)

[ballisticsbytheinch.etc](http://ballisticsbytheinch.etc)

maybe a little too specific?

handgunballistics.org  
pistolballistics.org

these are very general - perhaps too much?

These are registered, but available for a premium:  
handgunballistics.com  
pistolballistics.com

I think that we could certainly do a .org, since we're not planning on selling anything or whatever. In fact, I think that having it as a .org (and possibly with a redirect off of other .etc) makes more sense, indicating that we expect nothing to gain from it.

I like the .org

handgunammovsbarreldata  
pistolammovsbarreldata  
pistoldata-barrelandammoeffects  
pistol-barrelvsammodata

these are fairly general if we ever get around to adding the barrel wear, temp and other possible tests.

3/24/2008 8:26 AM

Hard to believe we're ready to begin thinking about the plans for this!

Do we want to use the same schedule --- Wednesday April 2 for set-up and either testing through Saturday or Sunday? I don't have any impending meetings this time to tighten my return schedule.

I am inclined to bring a few pistols to run some of the ammo for real world comparisons. Probably the odd ones that I don;t expect you two to have: .25 acp, .32 acp, .32 H&R and .380 acp. I know you have ones in .357 sig and .45 acp. Should I bring along .45 Colt and .44 spc/mag?

I don't want to force my snoring on anyone and am willing to use a motel :)

Have either of you gotten the data plotted? I'm about ready to take a go at it as I am really beginning to wonder what it looks like :)



3/24/2008 8:59 AM

Hard to believe we're ready to begin thinking about the plans for this!

Just next week! Woo-hoo!

Do we want to use the same schedule --- Wednesday April 2 for set-up and either testing through Saturday or Sunday? I don't have any impending meetings this time to tighten my return schedule.

Seems OK by me. Since we know what we're doing, and how everything needs to be set up, maybe this time take everything (minus the guns, saw, generator, etc.) out to the site and get it completely set on the first day? That way we get an earlier start the next morning.

I am inclined to bring a few pistols to run some of the ammo for real world comparisons. Probably the odd ones that I don;t expect you two to have: .25 acp, .32 acp, .32 H&R and .380 acp. I know you have ones in .357 sig and .45 acp. Should I bring along .45 Colt and .44 spc/mag?

Well, I don't have any pistols in those calibers, so I'd say yes. Once again, having those real-world comparisons have got to help.

I don't want to force my snoring on anyone and am willing to use a motel :)

Not a problem here - if Steve and Diana think that it would be disruptive, you are welcome to crash at our place.

Have either of you gotten the data plotted? I'm about ready to take a go at it as I am really beginning to wonder what it looks like :)

Data? Plotted? Does that have something to do with graphs?

3/24/2008 8:11 PM

How about

muzzlemeasure  
muzzlevelocity  
muzzledata  
barrelvelocity

3/26/2008 11:30 AM

The plot thickens - or at least ought to graph nicely when we have the data entered into Excel. Please do come stay with us for the duration and we'll ply you with caffeine whenever necessary! What's your pleasure for breakfast?

3/26/2008 4:35 PM

Things to get down there for the next go round:

chop saw blades  
sand bag rest (?)

I'll bring the gun rest, a metal bucket to throw the cut-offs into and the pistols in .25, .32, .32hr, .380, .44, .45 colt. Is there anything else?

How goes the T/C "sighting"? Oh, and it occurred to me that the barrel inch markings could be done ahead, possibly with a file so they won't wear off.

I de-burred the cut-offs and cleaned up the outsides (more or less, there is still some adhesive residue and the bores are rusty). Do either of you want any of these, should I bring them down?

3/26/2008 4:59 PM

Things to get down there for the next go round:

chop saw blades

I think we still have four. I'll pick up another half dozen.

sand bag rest (?)

Yeah, that would be good. Either of you guys want to hunt yours down, or should we just get/make a new one? A sock with a couple pounds of sand would suffice - I have both.

I'll bring the gun rest, a metal bucket to throw the cut-offs into and the pistols in .25, .32, .32hr, .380, .44, .45 colt. Is there anything else?

We'll need the other 'consumables' (food, fuel), but I can't think of much else. I'll get some alum rod the appropriate size for the chrono.

How goes the T/C "sighting"?

Well, there's no lasers locally. I was waiting to hear from one of you guys in response to my previous query about whether there was anything in particular to look for in ordering one. Just something that will mount on a Weaver rail? Something like this:  
<http://www.cheaperthandirt.com/SCP806-41751-1447.html>

Or does someone want a "real" laser, that can be used on another gun after we're done with this project?

Oh, and it occurred to me that the barrel inch markings could be done ahead, possibly with a file so they won't wear off.

Jim, there ya go with the obvious solution again...

I de-burred the cut-offs and cleaned up the outsides (more or less, there is still some adhesive residue and the bores are rusty). Do either of you want any of these, should I bring them down?

Oh, sure, a couple would be fun.

3/26/2008 5:17 PM

We'll need the other 'consumables' (food, fuel), but I can't think of much else. I'll get some alum rod the appropriate size for the chrono.

And 12 spares? ;)

Well, there's no lasers locally. I was waiting to hear from one of you guys in response to my previous query about whether there was anything in particular to look for in ordering one. Just something that will mount on a Weaver rail? Something like this:  
<http://www.cheaperthandirt.com/SCP806-41751-1447.html>

That looks good to me. I was waiting to hear from Steve :)

3/26/2008 6:20 PM

And 12 spares? ; )

I figured a dozen was a good number, the way I shoot. :)

That looks good to me. I was waiting to hear from Steve :)

Well, I ordered it. Reviews aren't the best, but what we want it for isn't SWAT work, either. Should have it by Wednesday, though we really don't need it until we get to a shorter barrel length.

3/26/2008 9:25 PM

I actually do have (and know the whereabouts of) a standard set of front and rear sandbags, so we're covered there. The cheaper-than-dirt laser ought'a work fine, unless it looks like an aluminum rod...

3/27/2008 3:24 PM

*[Seem to have missed another email exchange.]*

I'm stopping by there tomorrow so I'll see what's up. If there is ammo I will probably bring it down to play with as I'm already scheduled to bring 5 or 6 others.

Might as well! I need to remember to ask Alix to print off another half dozen "template" sheets that we can use for the various real-world pistols.

3/29/2008 8:06 AM

I picked up the Ruger .327, but no ammo :( I'll probably bring it down anyway as the real world .32 HR gun. Also now have some Gold Dot .38 special ammo.

Cool. I'll check and see if anyone in town has any ammo for it.

Yesterday I was out walking Tasha and lost my glasses ... I will be using the much different older prescription I have a built in excuse for shooting a chrono :)

Aw, Jim - you're among friends, there's no need for an excuse. :)

The laser should arrive today. I'll see what I can do to cobble it onto the T/C Encore.

19 yesterday morning and 23 this morning. It has been warming from that to reasonable temps. Hope it will be nicer down there for the tests.

Forecast is low in the 40s, highs low 60s, with rain possible for Wednesday and Thursday. We'll see how it looks when we get closer.

3/29/2008 2:53 PM

Now we can Shoot the Moon! . . .with our nifty new Laser on the T/C Encore!

Yeah, laser's here, mounted and working. We should still loc-tite all the screws on it and the Weaver rail, pick up some extra batteries, et cetera - but it looks like it will work just fine.

3/30/2008 10:03 AM

Yeah! :)

I plan on coming down between 12 and 1 on Wednesday. Should I head to Steve's place first? Do we want to start with lunch and then do the set-up?

3/30/2008 10:06 AM

Meeting for lunch as we did last time, then going out to do set-up works for me. Steve, howsabout you?

3/30/2008 1:35 PM

How could we possibly set up things correctly without help from Mr. Scoville Unit? I say we work up a sweat at Bangkok Gardens first so we won't need to do so later.

3/30/2008 9:10 PM

Man, we \*can't\* mess with tradition!

I say we work up a sweat at Bangkok Gardens first so we won't need to do so later.

So, we're all going to order 5+ on the soup??

3/31/2008 8:52 PM

Say, was the sort of stuff I got last time for lunch/munch out at the site suitable? If so, I'll lay in provisions again.

Anything else we need that you can think of?

4/1/2008 5:07 PM

So I have the pistols, rest and bucket...the video camera and tripod...I'm bringing the truck...and a range of clothing for the weather.

I'll grab some bagels on the way.

Should I go to Steve's or Jim's first?

4/1/2008 5:11 PM

Chatted with Steve about this earlier - why don't we do like we did last time, and you swing by here and we'll load goodies into your truck. I'll also load up my car, have it ready. We'll call Steve, meet for lunch, go out to the site.

Sound good? Safe travels!

4/14/2008 6:38 AM

Steve popped by yesterday, got his copy of the data. We're tentatively looking at the end of this week to do the remaining testing, depending on weather and other factors. Should be fun!

4/17/2008 2:02 PM

[Meyer and Downey communicate about getting out to conduct the tests using the 'real world' pistols, and having another shooting buddy along.]

Hey, we're all impressionable when it comes to BP [*black powder*]! Sunday will work well for me and we could probably finish up the "real" part without much problem. I'll pack up the right stuff and you and I can OD on caffeine so we'll be at 'Duane' speed....

Heh. That works. A bit earlier would probably be better for me, maybe get out between 10 and 11?

Let's see . . .

We'll need guns, ammo, chronos, documentation sheets & pencils, chairs, a work table and something for the chronos to sit on. Also bore snakes (I'll just bring my range kit), a trash bag, bucket for the brass. I'll bring some cardboard to work as light shields. Tape measure. Thermometer. Need the 2x2s and tarp? Anything else? Duane, do you need hearing protection?

4/19/2008 9:51 PM

And while we're being obscure, the Kase has 25 32 327 380 and short 44 and 45. I can add 4" 38 and 5" 45acp and I suppose even the 357 wheel-brick. Anything else you can think of from this end?

4/19/2008 10:10 PM

Howsa 'bout the M40?

I'll be bringing .38 in 2", 6" Python, S9 and M357, and prolly my Para .45. May also toss in the 9mm carbine, since 16" barrel falls within our parameters.

Can you bring some hearing protection for Duane? Ear plugs might be OK for that .36, but for some of the others . . .

4/20/2008 7:01 AM

Hearing and Ste(y)ring, done and done!

4/20/2008 6:32 PM

Thought I would drop you a note, let you know that Steve and I (with another friend tagging along) went out and shot all the "real world" pistols today, using the full run of ammo available. Lots of good data points on those. About 6 hours, plus a bit for cleaning up. I will get copies of the data sheets sent off to you in a day or two.

Mostly, it went smoothly. Your little Barrettas were a right pain to shoot, and problematic in getting data (we did, but we really had to work for it). The .380 Walther was OK, the .327 Ruger rough, the big .45 Colt and .44 Mag more pleasant than either of us expected. We also supplemented with my Steyr in .357 Sig, Steve's in .40 S&W, along with my .357 Python, .38 S&W 642, and Para Ord .45, and Steve's .38 Diamondback and big .357 S&W. We shot the .357 revolvers with both .38 special and .357 magnums, to have those data points.

Vanes were hit, bullets bounced off the armour plate in front. Sunburns were earned. But we got all the data, done done done. I'll probably write something up for my blog in the morning, as documentation. I also took pix today, to go along with the pix from the previous tests.

4/20/2008 6:46 PM

was wondering if you had gotten to it his weekend. Sounds like I missed some fun :)

John E says he expects to see all of the real world guns running lower velocities, but is \*really\* interested to see the numbers.

4/20/2008 9:39 PM

I was wondering if you had gotten to it his weekend. Sounds like I missed some fun :)

Well, yes, though I must admit, if I never have to shoot something over a chrono again, I'll be happy. That \*really\* gets old after four or five thousand rounds . . .

John E says he expects to see all of the real world guns running lower velocities, but is \*really\* interested to see the numbers.

Well, tell him that his expectations will need to be changed. Here's some quick head-to-head comparisons:



- .45 ACP (5") - almost no difference, advantage to the Para Ord!
- .40 S&W (4") - marginal difference (less than 50 fps), advantage to the Thompson over Steyr M40
- .357 mag (6") - Significant difference, advantage to the Thompson over .357 S&W (by about 200 fps), more over Python (another 100 fps)
- .38 sp (6") - A little difference, advantage to the Thompson over .357 S&W, more over Python (about 100 fps across the board!)
- .38 sp (4") - Almost no difference, advantage Thompson over Diamondback.
- .38 sp (2") - Significant difference, advantage to S&W 642 - between 100 and 200 fps!
- .357 Sig (4") - almost no difference, advantage to the Thompson over Steyr M357.

I don't know the barrel length for the rest of your guns, so can't really say. Interesting, but not too surprising, that the semi-autos seem to be closer to the Thompson "ideal" than do the revolvers, except with the 642. Really odd, that. Oh, wait . . . that could be the difference between the measurement including the chamber and not. We'll have to be very careful to note that in the data display, with information about the comparisons. Hmm. That would make the revolvers look even worse, since you would effectively be comparing them to a 'longer' barrel in the Thompson . . . say between a 3" and 4". OK, checking that, the data makes more sense, The 642 falls right there between those, so is fairly comparable, or a little on the underside. Clear advantage to the semi-autos for power, head-to-head barrel length, then, though with a revolver you get "extra" barrel.

Interesting!

And of course, there are variations between ammos, with some up and some down more than noted. Once the data is plotted, be interesting to see what the curve comparisons look like.

4/22/2008 8:56 PM

I need to send him a note to let him know about it...

I did get the data sheets off to you this morning. You should have 'em in a couple of days. We will need to get all the specs for each of the "real world" guns included - model numbers and all that. Steve has yours, so I couldn't just check 'em.

4/23/2008 12:30 PM

Look forward to the numbers. I suppose Steve is slowly typing his way through

the data. I sent the bit about the real guns to John.

Very good. Steve did say that he had gotten a start on entering the data. I haven't gotten these new sheets to him yet - Alix will tomorrow, when she goes over for music practice.

5/6/2008 10:20 PM

Quick progress report on the data entry - I'm about a third of the way through and making good time again after the stampeaz/ggca server crash. Now I know why there are number pads.

5/7/2008 7:47 AM

I hope you aren't missing out on any fun by doing this and I hope things are ok after the server crash! Was there a virtual black Thursday first?

Now I know why there are number pads.

Are number pads places where numbers hang out?

Devices for incontinent mathematicians?

Steve, we owe you big time! Doing that last day of shooting and now the number crunching - btw, do you now have fingers like the Hulk?

6/1/2008 1:52 PM

Good afternoon, gentlemen!

So, happy June. Time for us to put together that website! Since we discussed me doing the primary writing for the thing, I think it makes sense that I coordinate the content. Martha and I will consult with you guys about different design issues - unless someone already has an idea of how it should look/work.

I have already created a doc file with the email exchanges about the project, for archival purposes. It is currently over 84 pages long. I need to work on it some more to clean it up a bit, but I don't expect it will be too much shorter once I do. Whew.

I'll need whatever digital images or video you have.

And I'll need the data, in I suppose both spreadsheet and graphical forms.

I would also appreciate a bio from each of you, and any thoughts you have on the project (motivations, results, whatever...) I can certainly do some clean-up editing on those, if you would like, so long as you get me something to work with.

Toodles!

6/2/2008 8:56 AM

The data are nearly done and will be before I head off to Germany Wednesday. It's getting difficult 'cause the figures on the keys on my keyboard are nearly worn off... The good news is that I have no fingerprints on my right hand anymore! Could be handy.

6/2/2008 6:48 PM

Going to Germany? Has the government already come looking for you due to your part in this project, Steve? Have a great trip!

Lucy should have the videos onto disc this week.

JD, have you made an executive decision about the web name?

6/2/2008 8:54 PM

Lucy should have the videos onto disc this week.

Very good!

JD, have you made an executive decision about the web name?

Nope. The only feedback I've received, either by email or on the blog, was in support of "ballisticsbytheinch". But that was only a few votes.

Does this mean we can/should wait until the data is graphed?

Why? All of it will go onto the site as separate components. The more I have to work with, the sooner, the better.

Got through the first full editing of the emails. Need to look up and see if I have a couple where there are gaps. But even cleaning up and simplifying, it still runs to over 75 pages of text . . . :)

6/3/2008 9:23 AM

Roight, then!

They'll never catch me now, bwa ha ha ha...

Off to Germany tomorrow to march in the Schuetzenfest parade in Suhl and sample the local beverages. Here are the coded data sheets at last. I've not done the 'real world' entries yet, but those are sorta separate tables anyway and I can bang 'em out when I get back.

Anything you gents need from Germany?

6/3/2008 6:19 PM

Here are the coded data sheets at last. I've not done the 'real world' entries yet, but those are sorta separate tables anyway and I can bang 'em out when I get back.

Righto. Martha reports that she was able to open the file and everything! Ain't technology great?

Anything you gents need from Germany?

Just good stories from you when you get back! Have a great trip!

6/3/2008 6:55 PM

I just finished copying the video tapes to CDs. I think I did it right. I hope .wmv type files are what you want. And I hope you know how to edit them. I haven't progressed that far in the world of technology.

Most of three hours of you guys going bang bang with an occasional generator in the background for ambiance. And the cat is out of the bag as far as who shot the chronometers... >:-} ...thanks to someone's comment near the end...

Did one of you take a picture of the logs full of lead? And close ups of the gun with the shortening barrels? I'm curious to see the web site and the whole story with subtitles!

Have a great trip Steve!

Lucy (Jim K's wife)

6/4/2008 9:42 PM

Um . . . we'll figure out the video editing stuff. I think.

And yeah, got plenty of pix. Should be interesting!

6/5/2008 9:08 AM

If they don't work we'll try something else, provided someone has an idea what that might be. We'll get them sent off this week yet and you can see what you think. If I get the ambition I may investigate the process more and see what options there may be on this machine.

Lucy

6/5/2008 9:55 AM

Well, have fun with that - but I am reasonably sure that Alix will figure out how to manage it. If nothing else, we upload clips to YouTube, and then link from there.

I have copied the video discs so we can each have a copy. As I have a few other things almost ready to send you way I will a few days and send the bundle to you.

No hurry - I just wanted to get things rolling.

6/22/2008 9:30 AM

So, some time back you said that you or Lucy had shipped off a disk with images - I don't know whether it got lost in the flooding or what, but I haven't gotten anything from you.

Which is OK, since I haven't spent the time to do the necessary work up on the website, let alone sit down with Alix and talk design. We've both been a bit preoccupied with the impending splitting of the household items with her siblings...

Anyway, that is what has had me preoccupied. With Steve gone (he gets back today) and you in the flood, I haven't worried about pushing to get the necessary information and whatnot in order to build the site. But I am thinking that I do want to get it done, get it off my plate.

6/22/2008 11:07 AM

Oops, lost in the shuffle. I'll really get it out in the next day or so when I am in IC.

No, that's cool. As I said, I haven't been waiting around for it.

The only hurry is the one we impress on ourselves for the project. And as I am the lowest man of the technology ladder in this trio I am in no position to do much to help the bones of it along :(

No worries. We do need to decide on a name, though.

I'll try and get a bio together this week...

Good plan. ;)

6/23/2008 11:35 AM

Greetings, gents!

Steve, Jim and I started chatting again about the website for the ballistics project. I asked him if he has a preference for the name, and the conversation went from there...

Remind me of the choices...

<http://communionblog.wordpress.com/2008/04/08/a-website-by-any-other-name/>

Plus anything else you might think of.

- 1 - muzzlevelocity.etc
- 2 - ammobytheinch.com
- 3 - pistolballistics.etc

Anything else I've come up with is just \*too\* clever...so I won't share :)

Um, probably wise...

So, all three of those are available as .org domains. Personally, I don't like "ammobytheinch" - sounds like we're selling ammo or something. I do like "ballisticsbytheinch", which is also available as a .org. That one did get a few comments in support of it when I posted that blog entry, but nothing overwhelming. I could happily live with either of the other two choices Mr. K suggested, with a preference for 3 over 1. "Pistol Ballistics" is more clear and direct, but less flexible if we ever wanted to expand to cover other weapons. I worry that "Muzzle Velocity" might be a bit misleading, implying we have a broader scope of data than we currently do.

Steve, weigh in. I want to buy the domain and get started.

I've been thinking about the site, content, design and whatnot. We'll make up some mock-ups when we have a chance and I'll run it by you guys. But the tag line I kind of like is "Three guys, two chronographs, and 7,000 rounds of ammo..."

So, let me know.

6/23/2008 4:38 PM

Uhh, shouldn't that be four chronographs?!

Lucy

6/23/2008 5:19 PM

Steve, weigh in. I want to buy the domain and get started.

Hmmm - there's always "7000rounds.org" or "ballistictruth.org"

even "upin smoke.org" (!!)

6/24/2008 6:02 PM

Uhh, shouldn't that be four chronographs?!

hehehehehehehehe...

Hmmm - there's always "7000rounds.org" or "ballistictruth.org"  
even "upin smoke.org" (!!)

Presuming you were serious, "upin smoke" is taken in most variations, the others are available.

If you're not serious, do you have an opinion on the other suggested names?

6/27/2008 8:36 AM

So, let's make a decision on the name for the website, and at least get that purchased this month. I'd had another idea, though this is mostly tongue in cheek:  
moregristforthemill.org - given how this will likely spur more debate and discussion about caliber and ammo choices...

7/1/2008 6:58 PM

[Steve and Jim D had been out shooting, which Jim D mentioned to Jim K in a private email.]

Any word from Steve on the web name?

Nope. Or, not really. We discussed it while we were driving back from shooting on Saturday, but all he said was that he thought ballisticbytheinch was good and descriptive, if a little too long. He said he'd had another idea, but couldn't remember it at the time and would try to send it to me. I've been busy enough since that I haven't



bugged him about it.

7/21/2008 8:09 AM

I will need to come down your way in the not too distant future to collect the T/C. John is getting ready to do some work on the .50 GI and we need to make a safe test barrel.

7/21/2008 9:00 AM

Well, you are certainly welcome anytime, and it would be good to see you. But would you rather I just ship it up to you? It is \*yours\*, after all, so not like we're transferring something.

8/5/2008 1:47 PM

*[Jim K came down, picked up the T/C and his handguns left for the 'real world' testing. We had a good visit with everyone, talked about what all we needed to do for the website at some length. Following this, Jim D got busy with the video from the testing on his new computer.]*

So, dived into reviewing the video from the testing. Pretty fun, all in all. Have about half a dozen possible excerpts in mind - now just need to learn the video editing software on the machine.

You must have recovered from the intestinal fun if you can face the videos :)

8/6/2008 4:36 PM

Right then, I've actually remembered to get this done!

Steve

\*\*\*\*\*

Short bio for barrel test web page: *[On website.]*

8/7/2008 11:22 AM

I was thinking some more about the web site. Are you planning to write up a description of the purpose of the tests? I have some recollection of you suggesting that in the bios we might mention what we thought about them and hoped for them.

I was planning on writing up a "motivation" piece, explaining the reason for the tests and what we hoped to accomplish. So, yeah, if you want to amend your bio to include some thoughts on that, feel free. Or, once I get the basic content done, we can have reactions from one or more of us right there.

In general, I was going to work up a 'alpha test' of the site, with the design and content all in place and hosted, but only to let you and Steve and whomever else we think we want feedback from in on it. Then, make adjustments, tweaks, elaborations and expansions for a 'beta' version. Once everyone concerned is happy with that, then we'll go live with the thing.

8/7/2008 9:08 PM

Good evening, gents.

Well, I'm getting a handle on this video editing thing. I'm going to keep it simple, just appropriate for documenting the whole process. Got the first short done (3:28), documenting the set-up on the first day. I'm figuring on keeping the clips short for the most part, since no one is going to be interested in watching 10 minutes (the YouTube limit for a single clip) of us shooting, then recording the data, then shooting . . . time after time. I will probably do one complete such clip from late in the process, perhaps while Steve is doing the marathon with the short barrels, just to show what that was like.

Anyway, thought you might want to know that I'm making real progress in this regard. When I upload stuff to YouTube I'll give you the locator info.

Now, a design question for the site that I'd like to brainstorm with you guys. I wish I had thought of it before last week when we could have kicked it around in person some. Ah, well.

My thought is that we want to keep the overall design fairly simple, with some basic information and images on the homepage, but then links to different aspects of the project and results. That's not the question, just a FYI.

The question is what sort of focal image do we want to use for the thing? Something visual which conveys in a glance what the project is all about. My initial idea was that it

could be some kind of stylized graph, plotting velocity on one axis, barrel length on the other, since it seems to me that this is the essence of the whole project. But we could also go with some kind of firearm image (the T/C pistol might work), or even just something with bullet images. But perhaps I am being too literal. So your feedback on this would be most appreciated, and sometime in the next week would be preferable. If I don't hear from you in a few days, I'll ask again.

All for now!

8/9/2008 10:56 AM

Hi guys,

I've got six vids uploaded to YouTube. Seem to have misplaced another that was about the closing moments of shooting - will find it or re-create it and upload it sometime this weekend. You can find them all under Secarius7 at YouTube. I'm going to put the "Set Up" one on my blog here in a bit, but will wait until we get the other website up before posting the others.

Toodles!

9/14/2008 3:54 PM

Just thought that I would pass along that I have actually made some progress with the ballistics website. Specifically, I have the bulk of the text for the different components now written. Martha and I have talked about it some, and the next thing to do will be for the two of us to sit down and thrash out the rest of the design I have in mind, see what is possible. When we have something put together on one of my current sites, I'll send a link to get your feedback.

If you haven't yet checked out the video clips I sent you earlier, please do. And if you have other bits we'll want on the site (graphs? photos?), be thinking about those.

Once we have everything together and a workable site, I'll figure out what sort of hosting package to get and take care of that.

9/14/2008 8:33 PM

Very cool! - though I still need to transcribe the 'real world' data. I'm headed off to

Indiana tomorrow AM and will be gone most of the week; I'll check in when I get back.

9/18/2008 8:13 AM

I watched all of the videos. It reminds me why I am never really excited about listening to live recordings of me :)

I'm sure we all feel that way about you, Jim. ;)

It was interesting to note that you can actually see the little burns happen from the chop saw dust hitting the tent side!

I mean, really. Poor tent.

You might already have noted this for the text bit, but I was reminded that some of the barrels had distinct hard spots in them as evidenced by the difficulty in cutting.

I was actually thinking that I might write up a paragraph to describe each vid, explaining bits like this. Haven't done it yet.

Are you looking for other comments about the videos? My one general thought we be to edit from the present ones to get a four minute "highlights".

Hmm. Good suggestion. Let me think about it.

I look forward to Steve (not to volunteer anyone :) ) working up some graphs from the ballistics program to overlay data on. At least one so we can decide if it will be of interest to have such for all of the ammo sets.

I think that graphs would be really helpful. I don't know this (perhaps Martha does), but can we use the Xcel files to automatically generate some simple graphs? That might be sufficient.

With the video links I'm not sure what still shots would be good. If one thinks of the video as extras and the possibility that some people might not view them,

perhaps stills of the cabin backstop, the chronos with and without the rain cover, the pistol rest with and without the blast buffer, the bullet buildup in the log and or cabin, the T/C with long and short barrel.

Actually, I'm thinking of going the other direction with this, and putting pretty much \*all\* the photos I have on the site (or through a hosting service like Flickr), as part of the 'documentation'. May not be of interest to most people, but some folks will want to see them.

Rewrite of bio later today...

Got it. Looks pretty good, may suggest some minor tweaks.

9/23/2008 7:17 AM

Alix and I have sorted out much of the design elements. She needs to work on it, but has been busy with some last-stage organizing for our trip - we leave in three weeks.

11/1/2008 2:51 PM

Here's the preliminary homepage for the ballistics site:  
<http://www.afineline.org/ballistics/> The links are not yet "live" - that's what Alix is working on presently. Take a look and see what you think of the design and content so far (the bit at the very bottom is not done - just there to hold the place for the time being). One more thing we'll want to have on that homepage, perhaps in that bottom bit, will be a link to the blog for discussions.

Let me know.

11/2/2008 9:42 PM

I like what I see. Clean pleasant look. The text is concise and clear. Nice work Jim and Alix!

It's a good start. The top two links are now active, and you can see what those look like, as well.

Steve and Diana here for dinner - Steve likes it as well, and will get the "real world" data to us this week. Diana evidently knows a function for turning the spreadsheet data into graphs, so we can do that as well.

In other words, it is all coming together!

11:6/2008 8:32 PM

*[Note from Alix to Jim D: Here's a link - really! - for the videos. If you have a problem, let me know.]*

OK, here's text...

"Setup": The very first day of testing. Shows the basic process we followed in positioning the chronographs, setting up the shooting platform, and so forth. We would follow the same basic procedure each subsequent day of testing, including measuring out from the table with the shooting vise to the front of the first chrono. Because of weather concerns, we constructed a crude cover for the chronos using 2x2s and a clear plastic dropcloth. It is not very readable in the video, but the tent we used for protection is a "Remington" brand.

"The First Shots": This shows the very first shots, using the .380 barrel and ammo. From this you can see the entire procedure we followed for all 6,000+ rounds of ammo tested, and get some idea of how long it all took.

"In the Rain": Jim D had to run back to town (about a half hour, each way) to get more batteries for the laser sight we added for the second course of tests. Steve continued to test ammo, while Jim K did the dressing on the chopped barrels. You can hear the rain hitting the tent. And it was cold. Ah, the glamour of it all!

"Chop chop": Demonstrates the process for chopping the barrels on site. Particularly when we started getting down into the 6" range, it was necessary to use a length of hose and a piece of PVC pipe to stabilize the barrels for cutting. Each blade of the saw was good for about a dozen cuts, then had to be replaced.

"Testing, testing...": What it looked like once we were 'in the groove'. Jim K is chopping, Jim D running the T/C, Steve (off camera) recording data and setting up the ammo. Note the sequence: three good shots of ammo (with data), then swab the barrel once with a Boresnake. Move on to the next type of ammo to be tested. Rinse, repeat. A cleaning rod was used to pop out the spent brass when

necessary, and the laser sight allowed for speed in shooting. Well, when it worked right, it did. Spent brass went into a bucket located behind the shooter.

"Steve's Long Run": On the afternoon of the final day of testing, the mounts for the rail holding the laser sight failed. Completely. We had grown completely dependent on the sight by this point, and five days into this final course of tests, none of us were feeling particularly ready to try sighting with just the stub barrel mounted into the housing on the T/C. Particularly with the big calibers, which were developing quite a bit of kick with the short barrel lengths (and which had prompted us to set up the box around the shooting vise which you can see, to control the force of the shock wave coming off the gun). Jim K tried, with minimal success. Jim D tried, did even worse. But Steve was able to make it happen. So he got stuck shooting the final several hundred rounds of ammo, all in one long run, pushing to get it done. It was amazing.

Also, note two things evident in this clip: the 'confetti' flying around, which is actually parts of the cardboard facing stripping away due to the shock wave; and the bounce-back of bullet parts hitting the tent from the target. This wasn't actual ricochets, but rather bits of previous bullets embedded in the stump we were shooting into flying back when hit by the new bullet. It got so bad that we were very happy to have the tent there providing some basic protection, even though some such fragments managed to come straight back into the tent and strike us.

"Parting Shots": The final three shots from Steve's Long Run, followed by some calibration shots with the Python. We were having some trouble with getting the chronos to read consistently, since it was late in the day and the light angle was throwing off the sensors. Because of this, Jim D had to repeat a couple of the benchmark rounds, and managed to bounce one shot off of the armor plate placed in front of the chronographs for protection (happens at the 2:03 mark). What can I say - we were tired, but wanted to finish off the testing.

Look good?

11/6/2008 8:40 PM

[It all begins to look wonderful!](#)

Alix is working on the bios now, and I just sent her descriptive 'grafs for each of the vids, so those links should be active before long. After that, we'll update the email archives

and get that posted. Soon all that will remain is the data/results. We also need to decide if we want to just set up a flickr page for all the images - and that reminds me, send me any still images you have, would you?

11/7/2008 9:23 PM

[*Note from Jim D to Alix.*]

Here's something for the "Acknowledgments" entry.

We'd like to thank Pat and the folks at Fin & Feather in Iowa City, as well as Dave & Lee at Powder Horn in Columbia. Without their help in getting the ammo and equipment we needed, none of this would have been possible. Likewise, thanks to our spouses, who were not just tolerant but enthusiastically supportive of this rather nutty project.

Indeed!

11/7/2008 11:07 PM

As (delinquently) promised, here is the spreadsheet with "real world" data included. A coupl'a things: for complete reporting we need details, primarily barrel length and maybe model on a few, for the "real" pistols. I'm learning how to generate graphs from this spreadsheet, but we'll need to talk over how we want to average the values, probably including part of that discussion with the presented graphs when we get them up on the web.

11/8/2008 2:05 PM

Excellent. I had some specifics recorded about the pistols, in an email on 4/20. Here is the relevant bit:

- .45 ACP (5") - almost no difference, advantage to the Para Ord!
- .40 S&W (4") - marginal difference (less than 50 fps), advantage to the Thompson over Steyr M40
- .357 mag (6") - Significant difference, advantage to the Thompson over .357 S&W (by about 200 fps), more over Python (another 100 fps)
- .38 sp (6") - A little difference, advantage to the Thompson over .357 S&W, more over Python (about 100 fps across the board!)



- .38 sp (4") - Almost no difference, advantage Thompson over Diamondback.
- .38 sp (2") - Significant difference, advantage to S&W 642 - between 100 and 200 fps!
- .357 Sig (4") - almost no difference, advantage to the Thompson over Steyr M357.

I knew exactly where this was because I've just spent the last few hours updating the email file with all the stuff back and forth between us since about that email (up to this very message). The edited WordPerfect file is now almost 100 pages long. We'll get it on the test site, and then I'd appreciate it if you guys would pour a drink and then look through it - I've done a pretty good job of editing out non-relevant stuff (and personal bits I didn't think needed to be shared with the world), but before we go live with it, probably a good idea for you to double check.

Anyway, Steve if you will make a list of what other specifics we need about the pistols, we can get that info together. And whenever you guys want to get together to go over the database layout for the site, let me know.

11/8/2008 2:38 PM

I hope you have the info on the other real world guns -- in an effort to get into the storage I have possibly sent out some of them. If they haven't sold I can still get the barrel length measurements.

100 pages?! The drink better be coffee ;)

11/8/2008 2:47 PM

No worries - we can track it down. If I didn't write actual numbers down when I put together the data sheets, we'll have enough to look them up online.

100 pages?! The drink better be coffee ;)

Man, tell me about it. I have a bad case of numbbutt just sitting here editing the last 7 months worth.

11/8/2008 11:26 PM

Alix has more stuff on the ballistics alpha site. You can now link from the homepage to all of the other pages except the "results" one. On the "documentation" page you'll find the .pdf of the email file, as well as a cross-link to the videos. She also added an acknowledgments blurb and tweaked the header design to have the tag line in it. Check it out, let me/us know what you think. I'll be posting about it on my Communion of Dreams blog tomorrow, just inviting some of that limited readership to take a look and offer feedback.

11/9/2008 9:31 AM

*[Note from Jim D to Alix.]*

Thinking more about it, I don't want to have people just go to the "ballistics" tag on my Communion of Dreams blog. I would much rather have either the blog posts tagged individually (as a list), or actually have the text posted in the proper sequence. Which is this:

<http://communionblog.wordpress.com/2007/08/07/a-little-hint/>  
<http://communionblog.wordpress.com/2008/03/06/another-little-hint/>  
<http://communionblog.wordpress.com/2008/03/13/testing/>  
<http://communionblog.wordpress.com/2008/03/14/did-i-mention-it-went-well/>  
<http://communionblog.wordpress.com/2008/03/16/part-one-done/>  
<http://communionblog.wordpress.com/2008/04/04/it-was-spectacular/>  
<http://communionblog.wordpress.com/2008/04/06/damn-im-beat/>  
<http://communionblog.wordpress.com/2008/04/07/finished-well-sort-of/>  
<http://communionblog.wordpress.com/2008/04/08/a-website-by-any-other-name/>  
<http://communionblog.wordpress.com/2008/04/21/it-is-done/>

Also, we need to figure out where to put a "blogroll" or "other resources" list - where we can have some links to places like Brassfetcher and so forth. We'll also need to have a prominent link to the blog for discussion (which, of course, I haven't yet set up).

Love you - and thanks for all your hard work on this, once again.

11/9/2008 3:02 PM

I got through the many pages of e-mails. Actually it was very interesting to look back on them :)

I was reminded of two things.

Do we want to mention denting the batteries (and the need to stretch the spring) from the recoil in the short barreled T/C?

The oddities with some of the Corbon hot ammo primers?

First day with a high near freezing --- must be time to do so more ammo tests ;)

11/9/2008 3:14 PM

Happened to catch me just as I was sitting down for a bit of late lunch! Good timing!

I got through the many pages of e-mails. Actually it was very interesting to look back on them :)

I actually got quite a kick out of doing so. Very interesting to watch the whole thing evolve and unfold over time.

But then, we're freaks. ;)

I was reminded of two things.

Do we want to mention denting the batteries (and the need to stretch the spring) from the recoil in the short barreled T/C?

The oddities with some of the Corbon hot ammo primers?

Good question. We can handle that one of several ways . . .

1. Discuss it here, where it will show up in the final version of the email .pdf.
2. Wait and discuss it on the associated blog.
3. Create another section on the website to include such 'lessons learned and reflections' or 'notes on the process' or some such.

Of the options, I'm inclined to say that #2 would give us the most flexibility. Because it really isn't pertinent to the actual test results. And because I bet that as time goes on and discussions get going, we will be reminded of a lot of other similar aspects of the

testing. But you could make an argument that it could be archived on the site, as Alix is currently creating an archive of my contemporaneous blog posts.

Thoughts?

First day with a high near freezing --- must be time to do so more ammo tests ;)

Nah, it's not raining.

11/10/2008 12:49 PM

OK, so much for that. The photos I have have all been uploaded, titled, explained, and organized. You can find them here: <http://www.flickr.com/photos/ballisticsbytheinch/> We'll tie that to the documentation page on the site. If you have still images, send them to me and I will add them in. Still need to scan the data sheets, upload those to the same flickr account. I have created a "Ballistics by the inch" blog, still need do all the design work for it.

Let's see, between my usual hourly rate, and Alix's, I guesstimate we have about \$50k in this so far . . . ;)

Enjoy the photos!

11/16/2008 9:12 PM

Hey Jim,

OK, go get a drink. I'll wait.

hmmmmmmmmmm  
mmmmmmmmmmmm  
mmmmmmmmmmmm

Back? Good.

Got together with Steve, Diana, and Alix this afternoon (after Steve and I went out shooting). They kicked ideas around, and in about a half an hour we had sorted out the relevant design and coding issues for the data presentation. I think what we've come up with is simple, elegant, and will work really well. I think Steve had been stymied with the idea that we needed to be much more elaborate and comprehensive - overkill,

basically - and once we got past that notion while we were talking on the way out to the farm, he relaxed and was eager to get going on it.

Steve still needs to crunch the numbers and create the graphs plotting the data, but that should be a fairly automated process in Excel. Alix has started sorting out the coding, will get some help from Diana if needed. With luck, we'll have the thing ready for Beta testing and tweaking before we come up to Iowa. Once we're at that stage I'll set up the hosting arrangements, and we can then go live whenever we're comfortable we have the bugs under control.

Now, enjoy your drink!

11/18/2008 6:11 PM

Holy Cats! good photos, too. The first of my efforts at graphic novels is attached - I haven't figured out how to change the indices on the x-axis yet but it's a start.

11/18/2008 11:04 PM

*[Alix sent Steve a note about the graphs.]*

We got the file you sent (Book1.html) but when we try to open it, it says it is missing this:

Book1\_files/chart001.html

Is there something else we need?

No, the problem was on my part thinking that getting it into html was sufficient. It turns out I can extract the gif image from the gook microsoft creates which is what we really wanted in the first place. I've attached one to this email that's a format improvement over the other one anyway. It's gonna take quite a bit of time to do 'em all.

With what we decided ought to be the format of a 'results' page, could you mock one up? As I recall (always iffy these days) we decided to have a separate results page for each caliber; that page was to display some sort (pdf) of representation of the spreadsheet and have links to the graphs. Is that right?

Anyway, let me know what you think of the chart image.

11/20/2008 10:13 PM

OK, I know Steve is still slaving away, making graphs. But I thought I would pass along word that we're one step closer: Alix has the (numerical) Results coded in. Some minor linkage issues to be fixed. And she hasn't yet linked the .pdf and Excel files for the entire database so someone can download it. Couple of other design tweaks that we've talked about. But there are now actual numbers there for you to look at.

Yay!!!

11/20/2008 11:27 PM

And here is a compressed folder of all the graphs and a fresh copy of the spreadsheet with the tweaks in it for graph making. This took a while. I bin crankin.

11/21/2008 6:50 AM

A lot of small steps for a man's fingers a giant leap for ballistics knowledge at man's fingertips.

I wish I were of more use for the computer toil :( Just the curse/blessing of Luddite-ism

Such beautiful graphs --- absolutely wonderful to see the data that way. Did we really do all of that? Did I actually have a hand in it?

I can't thank you both enough!!

11/24/2008 12:42 PM

*[Note from Jim D. to Alix.]*

Hey love,

Here's the info/blurb I have gathered about the real-world pistols used:

In order to have a "real world" comparison, we used pistols from our personal collections to provide an additional data point for the ammunition tested. Below you will find a link from either a manufacturer's website or Wikipedia (when the older pistols were no longer available at a manufacturer's site) about the make and model number of

the pistol cited. And remember, as is stated on the homepage: "One note: in every case the length of the barrel was measured from the end of the barrel back to the breech face. This is how semi-auto pistols are measured, but revolvers are measured as the length of the barrel in front of the cylinder gap. Take this into consideration when comparing calibers using our numbers."

Beretta 950 Jetfire. .25 ACP, 2.3" barrel.  
Beretta 3032 Tomcat. .32 ACP, 2.4" barrel.  
Ruger SP101. .327 Federal Magnum, 3.0625" barrel.  
Walther PPK/S. .380 ACP, 3.35" barrel.  
Smith & Wesson Model 642. .38spl, 1.875" barrel.  
Colt Diamondback. .38spl, 4" barrel.  
Smith & Wesson Model 686. .357mag, 4" barrel.  
Colt Python. .357mag, 6" barrel.  
Rohrbaugh R9, 9x19mm, 2.9" barrel.  
Steyr S9. 9x19mm, 3.6" barrel.  
Steyr M357. .357 SIG, 4" barrel.  
Steyr M40. .40 S&W, 4" barrel.  
Smith & Wesson Model 629-5, .44mag, 5" barrel.  
Para Ordnance LDA 14-.45, .45 ACP, 5" barrel.  
Smith & Wesson Model 625 Mountain Gun. .45 Colt, 4" barrel.

Thanks!

11/24/2008 12:57 PM

*[Note from Jim D to Alix.]*

Hi love,

Here's that 'graph for the "Additional Ballistics Resources" on the Homepage:

#### Additional Ballistics Resources

Our little project here is not the end-all of ballistics testing, just one more component available for the common good. Here are some other great resources pertaining to ballistics testing you should check out:

\* BrassFetcher: excellent resource, with an emphasis on bullet performance in ballistic gelatin

\* The Box O' Truth: testing ammo penetration through various barriers

I've asked Steve to recommend others. There likely won't be too many, at least at first.

Love you!

11/24/2008 5:31 PM

Hey gents,

We've gotten a [Additional Ballistics Resources](#) paragraph up on the Homepage - please let me know if there are other sites we should have listed.

We've also added this page for the Real World pistols:

<http://www.afineline.org/ballistics/realworld.html> Please look it over and make sure that I have the correct guns listed, to the best of your knowledge. There were a couple of Jim's I had to guess at based on our notes and images from the flickr pool.

11/24/2008 8:02 PM

I'd forgotten the Box-o-truth guys :)

Fun with Buicks!

The only two thoughts (wow, more than one today!! :) ) I have would be to possibly mention Muzzle Blast Magazine as it does have some stuff on BP ballistics (at least in the print version) but BP might be out of our purview or too diffuse on the web site. Or to mention a "typical" site like The High Road as a place to search for further discussions on ballistics.

I'd say let's stay away from the black powder stuff, given the focus of our site. We could amend the blurb on the "Additional Resources" entry to say this:

Our little project here is not the end-all of ballistics testing, just one more component available for the common good. In addition to extensive discussion about ballistics to be found at many gun forums, here are some other great resources pertaining to ballistics testing you should check out:

And thereby avoid having to name specific forums (and offending those we ignore).



Hey, you didn't get to see the typo I just fixed, but I just invented a new term for the gun discussion boards -- duhscussions - talking about what should be obvious, dangerous or too stupid to try :)

I love it.

The .45 colt is a Taurus 450 Ultralight. I couldn't find on the current Taurus web site but the .44 mag 6 shot looks about right and is listed at a 4" barrel. If Pat hasn't sold it I will measure it to confirm.

OK, is this it?

<http://www.taurususa.com/products/product-details.cfm?id=230&category=Revolver>

Their site is a bit hard to get around, and it took a direct search for that model rather than paging through options. That looks like it in the upper left corner of the gun case here:

<http://www.flickr.com/photos/ballisticsbytheinch/3019886666/in/set-72157608818177005/> It'd be a 2" barrel (say between 4" and 5" on the results chart), so the velocities would fit.

The SW .44 mag is either 6" (which seems long), 4" or 3 3/4". I'm strongly inclined to think it was the 629 4" Mountain gun

Hmm - Steve actually wrote down on the test sheet "S&W 629-5", so that seems to be good documentation. But the velocities seem very low if that is the case. And in the picture cited above, it looks like a 4" barrel to me.

The rest of the guns seem correct and were not out of the ordinary when I purchased them. I can go measure the Berettas if you want them confirmed against the catalog listings.

Nah, I'm pretty certain that those are correct.

You guys must be McDonald's -- I'm lovin' seeing this site develop :)

I'm still in amazement about the entire thing!!

Just wait until we can pop up the graphs at a click!

11/24/2008 9:02 PM

Just wait until we can pop up the graphs at a click!

I can pop up Eggos with a toaster....

Nice job, folks, we done good!

11/24/2008 9:48 PM

That's the one :) [The Taurus.]

And we'll get that changed.

11/24/2008 9:53 PM

I went and checked the 4" Mountain Gun and it is marked 629-5 below the serial number so we are all right.

11/24/2008 10:10 PM

Ah, good - they just gave it that designation to confuse us, no doubt. Right - we'll clarify that with this listing instead: Smith & Wesson Model 629-5 Mountain Gun. .44mag, 4" barrel

So, Alix has all the graphs now converted over to webpages, one for each ammo/caliber. 71 in all. Seems to be some minor glitch with the javascript that she needs to tweak before they'll be linkable, but she indicated that it should be a fairly simple fix. Will also need to create & link the .pdf and Excel files for the true geeks. And I need to finish the design and layout of the blog, then link that from the main website. We're getting very close, in other words. Once we have the site done, I'll try and get some idea what sort of hosting package to buy - there's a fair amount of data on the site, and it could prove popular, so . . .

11/26/2008 12:33 PM

A couple of quick notes . . .

Martha is closing in on getting the javascript straightened out, and soon you will be able to pop up a new window with the graphs from each and every different ammo/caliber. She may try and see about resizing the graphs a bit (right now they open quite large). She also now has the .pdf and the Excel files as downloadable off the site.

Jim, I know you found some additional images from the testing - if you send those to me, I will upload them to the flickr pool. Steve, likewise if you have any.

I am currently working on design of the blog. I'll drop a note when I have something for you to look over. This will likely be the final component waiting for us to shift the site over to its own domain.

In other words, we're almost ready to "go live" . . .

11/26/2008 1:45 PM

I'd be happy to resize 'em as well, just let me know the dimensions. Well, two of 'em anyway.

11/26/2008 2:48 PM

Take a look at the blog: <http://ballisticsbytheinch.wordpress.com/> and see what you think. Once again, keeping it pretty simple. If we want, we can spend some money and customize it further, but I'm not sure that is necessary. I have sent you each an "invite", and once you establish a WordPress profile we can get you listed as an Administrator for the blog, so you can create or edit content, approve or nuke comments, add in categories, et cetera.

11/26/2008 3:01 PM

Hmmm...

Working the gifs over in photoshop results in illegible junk, kinda the nature of gifs. There's no direct control in excel over the format or size of these images, but I have discovered that you can tell it to scale the images to the `_window_size` of your particular excel session. Bizarre.

Dinking around with that and watching the output I have come up with the attached image (774 x 403) as being sort of the limit of legibility. What do you think?

11/26/2008 4:37 PM

Just an FYI - I used a 20% off promo offer from GoDaddy (where I have my various sites hosted) to secure hosting for the Ballistics site for the next 24 months. So, that's done. Alix can migrate the site over, and we can plug in the actual domain links in all the pertinent places (such as on the blog entries and so forth). It may take a day or so for everything to be actually in place - I have the confirmation and everything, but it takes some time for everything to work its way through their system. I will let you know when everything is "live". In the meantime, we need to make sure that everything is tweaked on the "afineline" version the way we want it, in terms of the blog, how the graphs look, et cetera. When we're all satisfied with how it looks, then we can get the word out and see what happens.

11/26/2008 4:38 PM

No worries. How does the design look? Any other categories we should have at the start/

Not having much blog experience it looks ok to me and I can't think of anything else to add at this time.

...it would be two but I tried to bust one of the dining chairs with my saw injured thumb, on the injury, and it's been less than kind to me since. If I had cut part of it off I guess I could do three thumbs up :)

I've said it before and I'll say it again - Wow!!

11/27/2008 10:23 AM

Happy Turkey-day!

Quick question, and a couple of notes . . .

Do we want the main site to be .org or .com ? I own both domains, and we'll put a re-direct on whichever we don't use. I think .com, since that is the default for most people, and we're pretty clear that there is no underhanded evil capitalist motive in operation, but there is something to be said for doing a .org. Which do you want?

I also added some links in each of our bios, as well as expanded the blogroll on the blog. Just FYI.

11/27/2008 11:15 AM

Which do you want?

Always a tough question for me (and the reason I bought both versions for the international woodfire ceramics site)...

I guess I never think about .com as business as-in-explicitly-for-sales oriented. But now you have me wondering about going with .org. So I guess that's a weighted average 50-50 vote from me. :-\

I also added some links in each of our bios, as well as expanded the blogroll on the blog. Just FYI.

Looks nice.

Some oddities from playing with the site on both Explorer and Firefox:

On the main results page in Exp the borders of the caliber buttons act like they are active (cursor changes) but don't work and the main buttons don't work or change the cursor to look active.

On Firefox the main results page .32 auto doesn't work, but it does on at least some other pages. On the FF .32 HR the .40 SW button doesn't work. Should I try all of the pages or is this one of the oddities you are working on?

Even the wicked take \*some\* rest ;)

11/27/2008 11:54 AM

I'll vote with the COMmies on this one. It was, after all, a collective effort... Having the redirect for .org is a good idea too, nice work!

11/27/2008 3:10 PM

... the middle one: .edu ;)

Educe would actually make a lot of sense.

Righto. .COMmie it is. And if anyone digs this deep into the email archives they'll really wonder about us.

Some oddities from playing with the site on both Explorer and Firefox:

Yeah, that's some of the wonkiness we can't figure out. The code is all the same from one page to the next, but sometimes it just goes haywire. If you "refresh" the page, chances are you'll get either them all working or a different one not working. Frustrating. We'll see what happens when we migrate it over to its own hosting.

Even the wicked take *\*some\** rest ;)

Jim, you oughta know by now that I'm so *\*eeeeeeevil\** that the devil sends me his toughest cases to work on.

11/27/2008 10:05 PM

Good evening,

Well, the site is now active, and everything more or less works. The wonky bit with the buttons on the results pages is still there, and Alix is considering an alternative coding solution. We also still have the original sized graphs, which will come up too large for the current pop-up window, but that will be resolved when we have the new gifs. Poke around, see if it all looks good.

I will update the blog with links back to the site now that it is active.

Alix will also set up emails for each of us: jimd@ballisticsbytheinch.com , jimk@ballisticsbytheinch.com , and steve@ballisticsbytheinch.com , so you can have a dedicated address you can use or ignore as you see fit. I'll put these as the contact points on the blog for each of us. Based on my experience having multiple blogs, I recommend keeping this email separate from your personal address, but you can always put your personal addy as the contact point on the blog if you wish.

I'd suggest we wait until we have the misc details cleaned up before posting the info about the site to any gun forums. Consider this the "beta test" phase.

So, pour a drink, take a look. It's real.

11/28/2008 4:14 PM

Right then. Here's a zipped directory with the new smaller charts, now 827x445. Any smaller and the silly chart generator in Excel makes the fonts so small they're useless.

11/28/2008 5:20 PM

Faaabulous! All has been switched out, all is up and "live." You're good to go, gents. :-)

11/28/2008 8:12 PM

OK, Alix had the buttons on the results pages fixed, and Steve's resized graphs loaded onto the site. We've found a couple of other minor tweaks, and I think we're now ready to release this thing on the world. I'll consider this to be the closing email for the .pdf documentation for the whole process, and unless I hear otherwise from you guys (such as someone else saying they want to make the first such post) tomorrow morning I'll go ahead and post a couple of comments promoting the site on some gun forums. As I noted on my Communion of Dreams blog today, then all bets are off as to what happens next.

Wow - hard to believe that we're actually at this point. I get such a kick myself out of just looking through the data, admiring the graphs, thinking about how it indicates this or that . . . it's all rather amazing.

Cheers, guys!

11/28/2008 8:20 PM

Woo Hoo! I had just been clicking though the site and admiring how well it all came out - go team!

11/28/2008 8:50 PM

Twass the night before Ballistics by the inch and all through the range

not a thing was really known about velocity vs barrel length.  
The gunnies were all wrapped up in Hoppes scented sheets  
while questions of carry gun trustworthiness ruined their sleep.  
And Jim D with his tent holed and Steve firing madly  
and I wondering aloud if we'd all gone batty.  
Were such questions the purview of souls tortured and tossed  
was such data allowed in the hands of the unwashed.  
When what to my wondering ear should appear  
but the ring of a slug off the steel protective gear.  
A chronometer saved, the reading remained  
but 6000 rounds more sneered in disdain.  
How could these three hope to succeed  
where no others had even attempted the deed?  
As minutes turned to hours and hours to days  
the thought of a website was still fogged in haze.  
Where would the fame lead us - to Beretta or Mauser  
to Para or Ruger or guns long and fowler?  
As the dark lingered on and the cold and the rain  
we steadied ourselves with espresso and goals to attain.  
And finally like spring swallows new to Capistrano  
We were finished - no more spent bullets raining like guano.  
The Alix and Steve and the taskmaster Jim D  
Edited and typed not missing a key.  
And when at last all the virtual gremlins had died  
they sat back in their big easy chairs and sighed.  
"Not a moment too soon", said the sun as it rose,  
"what insanity will they for next year propose?"

Congrats all around and grog for the masses  
for very soon I fear we will need dark glasses :)

- finis -