

Mid June book special - Hunting Rifles and Accurizing - sold for the first time together as a bundle for a limited time. Offer Ends Sunday 26th.

Please follow this link to view this special:

<http://www.ballisticstudies.com/shop/Book+Bundles.html>

Hello everybody, I hope this email finds you well. This week we are running a book sale; however, I also wanted to utilize this opportunity to pass on our recent activities in the way of a newsletter (but not spam!). Please note that I have included some rifle and bullet reviews along with our latest youtube uploads, so scroll down to ensure you do not miss out on any interesting information.

Book Special

This special offer differs from our normal bundles, so please check to see which package is right for you. We have noticed that all 'dabblers and toe dippers' have become diehard fans of the entire series, so please make sure that you have checked and double checked each package deal and selected the one that is right for you. Some of you may prefer to start with the currently discounted Tools bundle and then buy the currently discounted Skills bundle which will then give you the full collection. Others may prefer the fully discounted Entire Collection bundle. If you buy this bundle, you will need to purchase other titles separately or wait for a unique Cartridges / Reloading book deal, purchasing the shooting book as a final addition. That said, this package deal offers great savings.

This package deal is for those who have wanted to buy these two books together. It also makes for an excellent gift package. The rifles book teaches the reader the fundamentals while serving as a buyer beware (what rifles not to buy) while the Accurizing and Maintenance book teaches the reader how to make use of their (wisely) selected rifle in a DIY setting. It does not matter whether you shoot to 300 yards or want to shoot to and beyond 1000 yards; these books will help you make the right decisions while saving you money.

Our activities

Over the past few months we have been steadily working on the knowledge base along with more youtube uploads. We are now finally into the .358's, having just uploaded my .357 Magnum research. The .357 Magnum is yet another cartridge, which I believe is vastly misunderstood. The research I have uploaded also serves as a good platform for understanding handgun cartridge performance in general. Furthermore, this research helps us to obtain a deeper understanding of cartridge performance across the board. How is it that a small bore rifle cartridge needs to be driven at X velocity and with Y energy in order to produce good results, while the .357 can be made to achieve desirable results without the same considerations.

As we move through the .358 rifle cartridges over the coming months, we will see even more changes in performance. We are now somewhat less reliant on high impact velocities in order to gain spectacular

performance. Energy transfer can be immense; to the point that entry wounds are as large as exit wounds - but without bullet blow up. As we move ahead, our painted picture contains more and more detail.

And so it goes on. My days consist of taking my past field notes and putting these into readable articles for our website viewers. Steph in the meantime has been walking the hills, toting a .358 Norma Magnum so that the .358 bore and its performance on game across the velocity spectrum is constantly on both of our minds. In this way, as Steph sets about editing my notes, she is also completely immersed in the subject matter. She leaves in the morning with her pack and rifle, hunts the valleys, then returns home with a pack full of meat. Recoil is a matter of practice; gun weight is a matter of perspective.

Gun talk

Every week I receive a great deal of feedback on rifles. The emails come in and I get to see trends throughout the year. This enables me to get a better overall picture than I would obtain via one test rifle, which could go either way. Lately I have had a lot of complaints about Steyr rifles (a nice break from Sako rifle complaints). On the positive side we have the Ruger American, a rifle that costs a third of the premiums.

Many of you will not like the Ruger American rifle due to its cheap plastic lines and the world's ugliest plastic rotary magazine. Nevertheless as reports go, this rifle is the cause of many weekly praise emails. The photos of one ragged hole groups speak for themselves. This is quite a turnaround for Ruger as far as barrel quality goes. Keep in mind though that the Ruger American is difficult to accurize, should any issues arise. The V block design is not easy to bed, but with careful prep it is possible to stabilize the forend and bed the first inch of the barrel channel as a means to rectify bedding problems. Nevertheless as far as budget rifles go, the American is a winner and generally behaves well out of the box. The trigger is not the best, but Timney make an ideal replacement (please utilize these triggers, especially if the rifle is to be used by light framed females and youths). I have also found that the current M77 Hawkeye rifles have featured very sound bores (a boon for lefties!).

I would also like to mention one rifle from Weatherby (Howa), the Weatherby Vanguard Accuguard. The Howa action is a basic copy of the traditional and much loved Sako design but goes a step further, being available in stainless steel. In contrast to this, Sako changed their action design (cost cutting) when they adopted stainless steel. The stainless Howa / Weatherby is to my mind the ideal evolution. This rifle is even more reminiscent of the original by featuring a meaty Finnbear barrel contour but with the addition of fluting. I do not however know whether this barrel is double stress relieved (heated and slow cooled), but so far and from what I have seen these rifles are performing well and Howa barrel quality (internal finish) has improved over the last year. The stock is a Bell & Carlson with aluminum chassis. The recoil pad is soft. The only downside to the Weatherby stock design is that its shape does cause the rifle to jolt up under recoil and it is not an ambidextrous design (though Steph still manages to shoot our Howa Bell & Carlson). In my experience, this puts a cap on how far you can take such a rifle with regards to cartridge choice and precision shooting. On the one hand felt recoil is fine, while on the other you can lose your sight picture easily - not so good for long range work. The forend is also somewhat slim. Few people talk about such things but I find that as my clients get older, hands can become weakened due to

arthritis and general wear and tear. A wide forend can make life a lot easier as I wrote in the book series, especially if shooting high power cartridges. I think many gun companies get this aspect wrong when they slim a barrel down for weight savings but also slim down the forend. Getting back to the Weatherby, somewhere in the middle it all comes together. The .270 chambering is a wonderful offering; the .30-06 chambering is excellent, though on the outer limit for some folk, if it is to be used out long. The .300 Win chambering may be beyond some hunters. The .300 WBY magnum offering is extreme and does need magazine alteration (gunsmithing) if long sleek projectiles are to be fully employed. The Weatherby / B&C stock also vibrates at high recoil levels throughout its forend. The remedy is sturdy bedding through the action but also and especially into the forend (bedding the start of the barrel) by a good 1.5". In any case, these rifles in more mild chamberings offer great value for money. Readers can follow the steps in my Accurizing book to get the very best out of these rifles.

Howa have over the last year produced a mini action for .223 users. I am not 100% sure as to whether I like this, due to the fact that a standard short action can be useful if using very long projectiles in a .223. Howa have also introduced welter weight barrel contours which I am no fan of. So often we find welter weights to be one shot wonders, unable to handle a string of shots without overheating and losing their POI. Furthermore, Howa utilize a very heavy stock design (but is at least wide at the forend), so any barrel weight savings are soon lost. If skipping Weatherby and going straight to the Howa manufacturer source, my preference is for a basic Howa rifle with Boyds stock rather than the welter weight barrel offerings. I advise all readers to be cautious when shopping for these rifles - check the barrel contour!

Speaking of magazine lengths - I still see hunters caught out when buying rifles, finding after the purchase that the magazines are too short. It is not uncommon for gun makers to try and cram a long cartridge into a short magazine. This can work OK with factory ammo but is a pain when it comes to reloading long for caliber bullets. In many instances the hunter is forced to single feed which is extremely frustrating and can ruin a purchase. I see sob stories of this nature every week. Please note that although this weekend's special features the 'rifles' book, to avoid such mistakes the best combo for mag length considerations is to read the Tools bundle. This bundle features both my rifles and cartridges book and the two can be used together to avoid such ills. I really feel for folk who get caught out with this. But there are also other times when the magazine is long enough, but shooters try to seat out too far (example .308 Winchester) due to a poor understanding of reloading. Again, the book series deals with such things. Those who have the entire book collection have the greatest advantage.

I hope you found this gun talk useful. You can see how I could never get a job writing 'honest' reviews for a gun magazine.

Bullet talk

Well, I have been putting the new Hornady ELD-M and ELD-X to the test - both at the range and on game. I have also been answering a lot of mail from confused readers. So, now I would like to set the record straight and help you all get back on track.

The Hornady ELD-M has replaced the A-MAX. The only difference is a change in the type of plastic used at the tip.

The ELD-M is quite simply, the A-MAX. The changes are so slight that many of you will not notice any differences.

The main changes I have noticed are:

- Ever so slight change in COAL but no more than one might see when changing from batch to batch (.1mm / 5 thou change in ogive position).
- No major change in BC with moderate power cartridges (i.e. a small change in environment can equally cause elevation disturbances).
- A slight improvement in accuracy in the likes of the magnum velocity 7mm Practical.

Regarding the ELD-X

The ELD-X has a slightly heavier jacket and interlock swage. You may wish to think of this as a high BC SST. However, I have found that penetration is slightly better as the jacket tends to fold back against the shank rather than a wide form which arrests penetration.

Factors I have noticed:

- Excellent accuracy.
- Performance exceeding my expectations down to Hornady's claimed 1600fps.
- Good penetration. Risk of surface blow up minimized (Jacket core separation can eventually occur towards end of penetration like the SST).
- Long bearing surface of 6.5 143gr ELD-X useful for Swedes with worn throats.
- Excellent bullet weights for .30 cal users, increases flexibility of some magnums.
- Some extremely good factory loads (e.g. 6.5 Creedmore combined with Ruger American rifle).



The 200gr ELD-X after a raking shot at an impact velocity of 2300fps. Retained weight 115 grains. Wounding is violent whether tackling light or large bodied animals, penetration is very good considering the nature of this bullet design. Note also how the frontal area has reduced, the jacket folding back into itself rather than a wide frontal area which could arrest the bullet early on.



The same bullet with the core removed which fell away easily. If you look closely, you will note that after reaching the Interlock swage in the jacket, the core then gradually continued forwards, shedding weight as it did so. In other words, the core can slip (compare the length of the core shank to the length of the jacket). Nevertheless, the core and jacket were in this instance found together. Other fragments ((85 grains worth) created broad wounding.

It is nice (and rare these days) to see a new product that not only meets expectations, but also exceeds them. I do hope we see more options in the future including either a 150gr or 160gr .270 caliber pill. On a sadder note, it has been disappointing to see Hornady remove some of their traditional bullets from their line up (those deemed less popular) while adopting these new designs.

Youtube stuff

Our latest uploads include:

Pig hunt and pork prep (5 minute vid specifically made after seeing poor meat handling):

<https://www.youtube.com/watch?v=cZrChxEGLL4>

DRT bullet hunting / autopsies (12 minutes)

<https://www.youtube.com/watch?v=Qvge3tA5bX>

Kapiti Lecture, part one of the epic saga:

https://www.youtube.com/watch?v=G-_2RiJhltU

Long range talk (9 minutes of your life you will never get back):

<https://www.youtube.com/watch?v=QvNXYj3eJEk>

Radio interview from 2014 which is 'about us' (27 minutes. Some of you may have already heard this. I added a photo slide show for kicks):

https://www.youtube.com/watch?v=DY28_gX5vAs

Short fun vid for True-Flite to promote .358 caliber barrel making capabilities (1 minute):

<https://www.youtube.com/watch?v=Zc0bsmwUN84>

Trends and challenges

Now to another subject which is perhaps more relevant to New Zealand trends, but I hope that it serves as food for thought for all shooters.

Of late I have been seeing a large number of rifles hacked and disfigured in the name of “customizing”. The most popular form of customizing at the moment is to cut a rifle barrel extremely short for the purpose of reducing its length after fitting a suppressor. Along with this comes the goal of reducing weight. The net result is a ‘compact rifle’. The trouble is, these butchery jobs often handicap the rifle so severely as to negatively affect field performance. In some instances magnums are cut so short as to cause suppressor bulges due to extremely high gas discharges. To me it makes no sense to take a magnum, then cut this down so that it delivers .308 or 7mm08 performance but use nearly twice the powder charge while causing a risk of injury to the shooter as a result of high gas charges. In some instances cartridges are handicapped to the point that they simply cannot perform on game as they were designed. The proof that these combinations do not work arrives in the fact that the vast bulk of these rifles are put to auction. These failed projects then become some other person’s problem. Yet as an irony, the proliferation of these duds at auction makes it seem as though such rifles are in demand. Please be clear on this, the reason there are so many of these rifles at auction is not because of demand but because there are so many hunters trying to offload their failed projects. There is an old saying: nobody ever sells an accurate rifle. To this we might add and further generalize by saying: nobody sells a “good” rifle.

Another sad story is that of the .300 Whisper. There are many who want to shoot .308 loads at subsonic speeds, but few people understand that at such speeds pretty much all .308 bullets behave like solids (FMJ ammunition). The net result is narrow slow killing wounds on game. But it seems that nobody is willing to talk about this. Those who have studied my work thoroughly will understand when I say that

the study of terminal ballistics is now very old and that the subject of low velocity killing is not new. This subject was studied in great detail during the black powder era. The conclusion? The slower you go, the wider the bore needs to be. The British for example believed that .44 was as small a caliber as one could use in order to achieve a balance of wide wounding versus an acceptable trajectory. In the U.S the .458 bore was the compromise. Again, this is not a new field of research, yet like so much of what I try to teach has been forgotten. That said, we occasionally see a glimmer of the truth in such cartridges as the .458 SOCOM.

If you want to experiment with subsonic .30 cal shooting, why not buy a pound of Trail Boss powder and run this through your .308 Winchester or .30-06 caliber rifle. Once you have had your jollies poking pin holes through wet and loosely packed newsprint, you can go back to shooting regular .308 or .30-06 loads.

Yet another fiddle I have been seeing is twist rates. This is a subject I have discussed in the books. All I will say here is this: increased twist is not always a good thing and the faster you go (the more powerful the cartridge), the less twist you need. Here again I am seeing expensive dud rifles that throw bullets off target (sometimes tumbling), including the heavy bullets they were designed to shoot. Worse still, super-fast twist rates can force us to commit to a single bullet design. If the rifle does not like that bullet - tough bikkies for the owner. The trouble is folk do not understand just what can go wrong with extra twist. There are other factors at play, things other 'experts' neglect to tell you. Please refer to my Accurizing book for information on this subject.

The more I look into each of these projects and new problems that need not have been, the more I see the root cause of problems - boredom. People are spending less time in the wild and have too much time to ruminate on problems which do not exist. We have had generations past that started with Lee Enfields, Springfields and Mausers which all featured barrels of 24 to 25" in length and seldom did anyone complain. Those who wanted a short bush rifle approached this subject with a good deal of common sense. Creativity is a fundamental part of human nature and is an essential part of how any hunter refines his skill and equipment. That said, unchecked creativity can be counterproductive to mastery.

I would ask that my readers please look into this closely. What are your motivations? Why?

As an answer to the question of boredom, I would like to suggest that rather than chop into and ruin good rifles, your creativity is expressed in other ways.

For those wanting to explore compact bush rifles I would suggest directions you may not have taken. Many people shy away from wide bores, perhaps due to fear of recoil, or because of comments by others: "Why did you buy that? There are no elephants around here." As if fast killing was something to be avoided. But I would say, if you really wish to fully explore cartridge performance, do try a wide bore. In New Zealand, we and True-Flite have recently purchased and donated .358 caliber reamers to the NZ public. These were sourced from Manson reamers, and knowing that these were to be donated Dave Manson kindly gave us a discount. True-Flite have these reamers and are now making .358 caliber barrels. If you are looking for something new to play with, give this a go.

Looking for something extremely short - try a Marlin rifle chambered in .45/70.

As another idea, why not build or buy a rifle with open peep sights and add a quick release scope. Learn to shoot with both sight systems. Note that open sighted bush rifles cannot however be (over barrel) suppressed unless set up akin to the AR with a front high up on the gas block.

If you want to shorten a rifle and suppress it, sure. But why not base this on a 20" barreled .308. This way you can have your cake and eat it. The .308 is highly effective at 20", and at 24" with a suppressor your rifle will be of a 'normal' length. Such a rifle can be used in close and out long. If you do not like this idea, then ask yourself why. Is the length really too long, or is this route simple too boring for you? If it is too boring, then I believe it is not the rifle that you need to question.

Want a cool mid weight magnum project for a Tikka with magazine length issues? Have you been thinking about a .284 Win chambering but wonder if there is a better way? Try this. Obtain 7mm SAUM brass. Obtain a WSM magazine for your Tikka (Tikka only make one action length so you only have to obtain the magazine, make sure the bolt face is correct and make sure the bolt stop is located correctly which is a simple job). Have a smith fit a 7mm SAUM barrel. The WSM magazine will be well long enough to seat loads out where they belong. If a 24" barrel is fitted, the rifle will yield at least 2750fps with the 175gr ELD-X. With a BC of .675, the bullet will yield 1600fps at 950 yards!

There are many ways we can entertain ourselves as hunters. Rather than ask a smith to hack your beloved to pieces, why not try your hand at bedding? Why not really challenge yourself? If you make a mistake - who cares, you can start over. Such projects may be time consuming and do not offer the instant results of a barrel chop or the latest gimmick, but they are so much more engaging and rewarding. Challenge yourself!

If you really wish to feel fulfilled in this sport, you will find this by challenging yourselves. The act of effort towards mastery, of success through the overcoming of failure is what brings out the best in us. I believe this is one reason why long range shooting keeps many of us coming back to the range over and over again.

And what if you cannot get into the field? For those of you who only get to leave the city once in a while, again there is no reason why you cannot set about rifle bedding (accurizing) as a way to become immersed in 'the rifle'. We offer our own optimally designed bedding compounds with online tutorials along with the detailed information given in the book series.

All the best, Nathan.