



- The Single Shot Black Powder Cartridge Rifle Club of Great Britain -

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Affiliated to the N.R.A. – No. 1285

BLACK THUNDER

The Official Newsletter

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Spring Silhouette match gets new shooting season underway ...



Most of the gang who turned out for the first Silhouette match of the season. From left to right they are: Phil Morgan, Andy Boyle, Vic Nock, Nigel Dennis, Tony Purser, Nick Steadman, Perry Goodacre, Jacko Jackson, Pat Farey, Geoff Hoden, John Gilpin, Sid Bennion, Roger Andrews, Richie James, Guy Milchem, John Grover, Adrian Eagling, Gerry Haines, Clive Taylor and Frank Pfeil. Those who wandered off and missed this historical photo opportunity, must have either been too shy or wanted by the police!

Full report inside...

Match Reports

Silhouette Shoot Saturday 29th March



The first shoot of the year took place on 29th March and what a turn out! We welcomed several new members to the club and enjoyed their good company for what we hope will be the first of many friendly matches.

Despite an ominous weather forecast for the weekend, not a single drop of rain fell on Bisley. With critical timed shooting, it's the last thing we need to disrupt the flow of the match! With our growing band of men, we had to hire four targets and markers. As usual, the markers allocated to us and our funny targets, were very efficient and if any of them read this ... well done.

The first of the six details got under way at 08:45 sharp, as soon as those pigs came up over the "hill" in fact. As is our custom, we started with the larger pig target to allow those without sight settings, to get on quickly. Once on target, hitting those tiny little chickens became a bit easier, even if they did look like sparrows at 300 yards!



Two of the four chickens in the firing line. This picture was taken at 3x zoom. In reality, they looked no bigger than the full stops on this page. When Jacko shot ten in a row with his Pedersoli .40-65, it was acknowledged as a brilliant piece of shooting. He quite rightly deserved the coveted "High Chicken" award.



Guy Milchem watches Vic Nock do his teapot impression.

Jacko Jackson was in his element during the chickens and shot 10 in a row which earned him the prestigious "High Chicken" award.

After lunch, the not-so-prestigious Wounded Willy



Four new members in a row, each one very welcome. Andy Boyle doing his thing at the 300 yard stage; behind him are Vic Nock, Nigel Dennis and Tony Purser, all old shooting buddies. Right at the end is Clive Taylor.



Sid Bennion waits for Jacko Jackson to finish on the rams before shooting 9 of them straight. The tension must have been too great since he missed his last shot. Don't you just hate it when that happens? Jacko and his Pedersoli .40-65 Sharps went on to win the match with an impressive 33 hits.



Clive Taylor having just fired that big cannon of his. I swear he recoils back a few feet during a match!

award was won by no less than 3 shooters, Len Jackson, Richie James and Vic Nock. Now I'm not going to dwell on the criteria for winning this award except to say that it can only be won on the rams! For those not familiar with our twisted sense of humour, the award is featured somewhere on this page... see if you can find it.



John Gilpin during his session on the rams. This was his first shoot with us and he fitted right in as if he'd been with us since day one. Nice to have you with us John.

Finally, to those who helped out with the scoring when things got hectic, a big thank you!

It does take the pressure off and we hope that we can count on you again. All in all, a very good day.



What a good way to spend an afternoon ... watching guys shooting rifles and knowing that you're next.

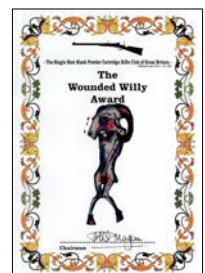
Silhouette Results

Shooter	C	P	T	R	Total	Class
Jackson J.	10*	9	6	8	33	Master
Haines	7	5	6	10	28	Master
Morgan	7	8	5	7	27	AAA
Andrews	5	9	5	8	27	AAA
Dennis	6	7	7	5	25	AAA
Taylor	7	7	4	6	24	AAA
Jackson**	6	7	4	5	22	AAA
Bennion	3	8	2	9	22	AAA
James**	6	8	3	2	19	AA
Gilpin	5	6	3	4	18	AA
Steadman	3	7	2	6	18	AA
Purser	1	8	5	3	17	AA
Boyle	4	8	2	3	17	AA
Goodacre	6	5	4	1	16	AA
Grover	1	7	4	4	16	AA
Hoden	1	6	4	4	15	A
Milchem	3	2	4	6	15	A
Pfeil	3	7	0	3	13	A
Nock**	2	3	0	5	10	A
Eagling	4	2	1	2	9	B
Farey	2	2	0	3	7	B
Clareboets	3	0	1	2	6	B
Hinchcliffe	0	0	1	0	1	B

* High Chicken Award
 ** Wounded Willy Award



The annual trophy, sponsored by Dale Murphy CMS Antiques.



No words necessary.

Mid-week practice Wednesday 9th April

We held our first mid-week practice day of the year at the beginning of April. Although only a handful of shooters could manage to make it, those who did, enjoyed an entire day of casual and relaxed shooting at 600 yards and 200 yards.

Shooting started around 8:30 after the Bisley hooter sounded. The weather looked very ominous, as you can tell from the clouds in the picture below, and shooting was brisk in an attempt to beat the deluge which threatened! As it turned out, it only rained for about 30 minutes, which was a good excuse to get



The beauty of mid-week shooting is that you almost always get the whole range to yourself. Here enjoying the pre-rain sunshine are Frank Pfeil, Guy Milchem and Clive Taylor.

into the car to warm up as it was quite cold. Clive brought down his new toy, a Pedersoli "Billy Dixon" Sharps in .40-65 which proved capable of some



Another shot of the boys ... Clive (with new toy), Guy and Frank enjoying the mid-week solitude of the 600 yard firing line.



Nick Steadman setting up his gear on Short Siberia's 200 yard firing point just prior to blasting the screens off his chronograph. I told him 3 feet was too close! Frank Pfeil is behind, having just fired a shot with his Rolling Block. The ass on the right belongs to Guy Milchem who was either praying on his prayer mat or spotting Frank's shot ... I can't remember which now! Guy recently celebrated his 74th birthday, a couple of days before the Creedmoor shoot. Black powder shooting obviously agrees with him!

remarkable accuracy. After firing a few shots off myself, I had to agree that for mid range shooting, with light wind conditions, it took a lot of beating. Putting holes into the inner circles was no great effort.

We all went to The London & Middlesex Club for a hot lunch, after which it wasn't easy to get motivated again!

Moving over to 200 yards on Short Siberia range, the high point of the afternoon for me was watching Nick Steadman blow the wings off his chrono. "Further back Nick, further back!"

To summarise the day I'd have to say.... pretty good and lots of fun.



This is one of several 5s which Clive notched up while playing with his new toy, a Pedersoli "Billy Dixon" model in .40-65. After shooting a few rounds through it, I must admit that it's a very accurate combination. The distance is 600 yards with the camera held against the eye piece of my "cheap" 22x spotting scope.

Buffalo Shoot Saturday 26th April

When Clive and I were pasting up the targets in the pouring rain on Friday afternoon, we thought we were going to be in for a wet shoot! Everyone turned up expecting crap weather, as it was forecast, but not a single drop was seen or felt all day! Which was great because it made the day so much more enjoyable. Are we a lucky Club or what?



View of the "herd", taken from the firing point at x2 zoom. If you took the backstop away, you could imagine they were real!

The match started on time at 8:30 with Frank Pfeil, Guy Milchem and yours truly first up to start the "slaughter". Twenty one shooters entered this, the 1st of our two buffalo competitions. For the benefit of our newer members, the shooter with the highest aggregate score walks away with the golden buffalo trophy which is currently held by Jacko Jackson after



Clive spots shots for Adrian Eagling (nearest the camera) and Len Jackson. Andy Boyle (seated) scores for Nigel Dennis.

his brilliant shooting last year (hope you're feeding him well Jacko).

We welcomed Chris Barnard to our ranks for his first shoot with us. Chris put up a very respectable score of 92/100 for the 200 yard morning stage, shooting six 5s in a row at one point. Gonna have to watch him closely!



This one's for Kenny Wasserburger, who, when asked for his advice on scoring zones for this target, kindly marked up the anatomical "kill-zones" for us. Target #16 has just scored a 3 while #17 shows a 5, the maximum possible. That "heart zone" measures less than 12 inches across and represents the ultimate challenge at the 600 yards stage.

After lunch we moved over to Century range for the tricky part ... the 600 yard stage. A tense delay caused by a problem in the butts, put us behind our shooting schedule; not what's needed with our timed competitions! As it turned out, the match finished with 15 minutes to spare.

At the end of the day, Roger Andrews finished 3rd. with 154/200, Nigel Dennis came 2nd. with 156/200



Nick Steadman (and Rolling Block) in pensive mood, perhaps remembering a previous life as a buffalo runner, when the prairies were black with bison!! Or maybe just wondering what to have for dinner.

and only modesty prevents me from mentioning 1st. place.

Thanks to everyone for making it such an enjoyable day. The pictures will finish the story off ...



Roger Andrews catches some rays while he waits to take over from Pat Farey.



A good back view of Len Jackson showing off his total body control by shooting and attempting to do the "splits" at the same time.



Nigel Dennis receiving his runner-up silver coaster, certificate and bottle of cheap (and I mean really cheap) plonk from Phil Morgan. Nigel's wife Mandy looks on with some of the other guys.

Buffalo Results

Shooter	200	600	Total	Place
Morgan	96	68	164	1st
Dennis	87	69	156	2nd
Andrews	86	68	154	3rd
Boyle	90	59	149	4th
Taylor	95	50	145	5th
Jackson P.	93	50	143	6th
Barnard	92	44	136	7th
Gilpin	83	53	136	8th
Jackson L.	85	47	132	9th
Hinchcliffe	83	35	118	10th
Pfeil	78	37	115	11th
Steadman	71	40	111	12th
Hoden	78	32	110	13th
Clareboets	87	16	103	14th
Grover	68	23	91	15th
James	87	10	97	16th
Milchem	77	18	95	17th
Eagling	88	6	94	18th
Goodacre	60	25	85	19th
Haines	84	0	84	20th
Farey	80	0	80	21st



A reminder of what's at stake. The magnificent Buffalo Trophy will go to the highest aggregate scorer of the two matches. The trophy has been kindly sponsored again this year by Geoff Hoden.

The Creedmoor Cup Saturday 3rd May



The Creedmoor match took a slight twist this year due to circumstances beyond our control! Because the range was so busy and we had a large contingent of visiting German police shooting alongside us, the NRA did not have time to paste up our regular square targets. And, furthermore, we had to split the match into 900 and 1000 yards instead of the usual 1000 yards all day. Hopefully next year we will be back to the regular 36" x 36" Creedmoor square.

The weather started really well with a slight left to right crosswind requiring only 6' - 8' of windage. The afternoon was a different kettle of fish! Double the windage and brass monkeys to boot! Most shooters took the full 30 minutes due to the windy conditions. The bigger calibres, .45-90 and up, took the first four places. Clive Taylor did well with his .45-3¼" and at one point shot a 12 inch group with 4 consecutive shots at 1000 yards! But it was Roger Andrews' day again as he won the Cup for the 2nd year running with his .45-90 Shiloh. Well done Roger, now let's see you do it three times in a row!



What a view ... amid the fabulous scenery, Guy Milchem says a quick pre-match prayer to the gods of Stickledown. Either side of him on the 900 yard firing point are Frank Pfeil and Malcolm Seller. Clive Taylor makes sure his mat is comfortable for his turn next.



Adrian Eagling, halfway through his 1000 yard session while Geoff Hoden composes himself to shoot next. Behind him, Tony Purser's shot is waiting to be spotted by Roger Andrews. With a left to right crosswind that required between 10' - 15' windage, it made staying on target tricky.



A close up of the target area showing the scorched ground after recent fires.

Creedmoor Results

Shooter	AM	PM	Total	Place
Andrews	66(12)	50(9)	116	1st
Taylor	42(8)	44(7)	86	2nd
Grover	32(6)	40(6)	72	3rd
Haines	47(8)	20(3)	67	4th
Morgan	25(4)	18(1)	43	5th
Eagling	27(5)	13(2)	40	6th
Hoden	14(2)	16(2)	30	7th
Purser	16(2)	8	24	8th
Pfeil	5(1)	16(2)	21	9th
Milchem	16(3)	R	16	10th
Seller	R	R	-	11th

Figure in brackets indicates the number of centres scoring 5 points

R = Retired from match

BUMPING THE TAPERED BULLET

By

Paul A. Matthews

The concept behind the design of Lyman's No. 457677 and 410678 tapered bullets is two-fold: first, we wanted to get as much of the bullet as possible into the bore of the barrel before firing without the extra operation of breech-seating the bullet, and second, we wanted to get as much of the bullet as possible engraved by the rifling at the instant of firing, again without the extra operation of breech-seating.

The first objective is accomplished by having the diameter of the first two driving bands just under that of the bore diameter of the barrel across the tops of the lands, and the diameter of the third driving band small enough so that it will enter the tapered leade of the rifling and contact the rifling there when the fourth driving band is in contact with the root of the rifling just ahead of the chamber. With the bullet thus positioned, the second objective is reached when the bullet "bumps up" or obturates and moves forward the width of one driving band at the instant of firing. At that time we have four driving bands engaged with the rifling instead of one driving band as is the case with a non-tapered bullet.

In combination, these two factors help promote superior accuracy with the tapered bullet. The first two driving bands being within the bore of the barrel help to properly align the bullet before firing. And the simultaneous engagement of four driving bands with the rifling helps prevent torsional slippage of the bullet during its initial forward movement.

For all of this to take place as planned, these bullets **must** bump up or obturate at the instant of firing. This means that you should be selective in your choice of alloy. You should avoid any alloy containing antimony and preferably use a straight lead-tin alloy of 30 to 1 or even softer. This is important. If you look carefully at the bullet, you will note that it has a very short nose, thus little weight up front to assist in the obturation process. So to make certain your

tapered bullet bumps up at the instant of firing, use a soft lead-tin alloy.

Because internal barrel dimensions, including chamber, throat, leade, bore and groove diameters vary from rifle to rifle, the as-cast diameters of the front driving bands are a compromise. For example, the bore diameter across the tops of the lands on my two Snover-built 45-70s measure very close to 0.4495 inch. You will find many other barrels to be 0.450 inch and you will find some that will go as large as 0.4515 inch. To design a bullet or to make a bullet mould that will cover this wide a range of dimensions necessitates a compromise on front driving band diameters.

Not only are the internal barrel dimensions different from rifle to rifle, you will also find that the as-cast diameters of the three front driving bands are usually a tad smaller than the design specifications. This is because of machining tolerances used in the making of the bullet mould regardless of whether it is a Lyman production mould cut with a cherry or a custom lathe-bored mould. No mould maker can be expected to produce a bullet mould without having some tolerance, some leeway, on the dimensions. If they are within half a thousandth of the specified dimension, they have done a good job.

But to get the ultimate accuracy from a tapered bullet, you want that bullet to fit your rifle barrel as closely as possible at the instant of firing. That means that in my Snover barrels I want the two front driving bands on bullet No. 457677 to measure 0.4495 inch, and the third driving band to measure 0.453 inch. The last three driving bands will go through a 0.4575 lubri-sizing die.

But how do you get driving bands to measure 0.4495 and 0.453 inch when they come out of the mould measuring somewhat less than that? How do you get that perfect fit with the bore dimension of your barrel? And is it worth the hassle?

To answer the last question first, if you are serious about your shooting and want to squeeze the last bit of accuracy from your rifle, it is definitely worth the extra effort to "pre-bump" the front three driving bands prior to lubricating the bullet. This pre-bumping process is nothing new. Members of the Cast Bullet Association were doing it twenty or thirty years ago to get a precise bore-riding fit on the nose of their bullets. It worked to good advantage then in

smokeless powder rifles and it will work today in black powder rifles. The big difference is that we are interested in bumping up the three front driving bands on a tapered bullet where the CBA members were bumping up the nose diameter of the bullet.

This bumping up process is done in your lubri-sizer. And I have to say right now that the lubri-sizer should be one of the newer models having a steel handle, and not one of the older ones with a cast iron handle. Although little pressure is needed to increase the diameter of the driving bands by a thousandth or thousandth and a half of an inch, a cast iron handle is not made for this kind of work.

To start with, put a sizing die in your lubri-sizer that is just small enough to clean up the main driving bands on your bullet. That is, if your bullet casts 0.459 over the rear driving bands, install a 0.459 or 0.458 inch sizing die. What you are interested in here is to hold the bullet perfectly centered in the die with no wiggle room. I personally use a 0.458 inch die.

Next, install a nose punch or top punch that is a precise fit with the nose of the bullet being bumped up. This nose punch must fit the nose of the bullet precisely in order to prevent any deformation during the bumping process. Set a bullet on top of the die and push it into the die as deeply as possible while still leaving the three front driving bands in the upper entrance part of the die. Adjust the bottom stop on the lubri-sizer to maintain this position.

With the nose punch in full contact with the nose of the bullet, exert a brief, firm downward pressure against the nose of the bullet. Do not “bump” the nose of the bullet or give any quick thrust against the handle of the lubri-sizer. Merely exert a steady even downward pressure against the nose of the bullet. Eject the bullet from the die and measure the diameter of the two front driving bands.

You will have to process only four or five bullets to determine how little pressure is required to increase the diameter of the front driving bands. And about the easiest way to determine when you have the correct diameter is to test the fit of the front driving bands in the muzzle of the rifle barrel. They should be a smooth even push with no side-to-side wobble and, in my opinion, no visible engraving marks of the rifling. Remember, you will be chambering cartridges

loaded with this bullet in a barrel fouled with black powder.

Once you have determined the proper diameter of the front driving bands for your rifle, you will want to rig some kind of mechanical stop on the lubri-sizer that will limit the travel of the nose punch and allow you to bump every bullet quickly and easily and exactly alike. Because of the differences in lubri-sizers, I can only tell you how this was accomplished on my Saeco.

With a pre-bumped bullet of the correct diameter in the sizing die, and with the nose punch in full contact with the nose of the bullet, I measured the distance between the top of the die holding boss and the bottom of the nose punch ram. This came out to be 0.600 inch. Since the top flange on the die was a shade less than $\frac{3}{4}$ inch in diameter, I purchased a copper sweat coupling for $\frac{3}{4}$ inch copper pipe. From this, I had a sleeve made that was just 0.600 inch long and would just nicely encircle the die flange and set between the die boss and the nose punch ram, thus limiting the downward travel of the ram to a precise point. Minor adjustment of the bullet position within the die could then be made with the bottom stop on the lubri-sizer. Doing it this way, as long as my bullets are all of a precise length, they will bump up a precise amount each time. I mention bullet length because quite often bullets cast at the beginning of a casting session or following an interruption during the casting session are one or two thousandths of an inch shorter than normal and will not bump up the same, if at all.

There you have it. That is the way I am working with Lyman No. 457677 tapered bullet at the present time. And despite the little extra time and effort involved, the results on the target make it worthwhile. This does not mean that your tapered bullets **have** to be bumped up to deliver superb performance. By all means, first try your bullets just as they come from the mould and, depending upon the internal dimensions of your rifle barrel, they may perform beyond your expectations. If, after two or three range trials you are not satisfied with their performance, then try the bumping up process. It might be the little extra that puts you over the top!

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The Shiloh Rifle Manufacturing Company donates an 1874 model Sharps Rifle ...



Like their rifles, Shiloh's Gift Certificate is a work of art in its own right. If I'm lucky enough to win the rifle, I'm going to have the certificate framed!

Shiloh Rifle Manufacturing, have really shown their true colours by donating a rifle to "THE Man Down Under" match to be held at Bisley on Saturday 25th October.

This generosity demonstrates their willingness to support our Club and help us in our commitment to further the sport of Black Powder Cartridge Rifle shooting in the UK.

The donation is in the form of a gift certificate for a Basic Model Sharps to the value of \$1504. The winner will have the opportunity to choose the calibre, barrel length, etc. and also to upgrade or customise the rifle if he (or she) so desires.

This is truly a fabulous chance to own a Shiloh rifle and if you've got one already, well, you could always try breeding them!

To give you a glimpse of what's on offer, pictured at top right is the basic 1874 Sporter #3 model, available in standard grade wood, with shotgun or

military butt stock, double set triggers and a choice of different barrel weights ...



... or, you could upgrade to my personal favourite rifle, the 1874 Sporter #1 with shotgun butt stock and cheek piece, pistol grip, double set triggers, choice of barrel lengths and weights, etc, etc. Whatever you choose, you know you're going to get a quality rifle.



If you want to see Shiloh's full product range, go to: www.shilohrifle.com or try the link on our own web site.

If you want to see the competition trophy, go to p.15

LETTERS

I found the article "Making The Big-Bores Shoot" by Frank H. Mayer fascinating reading but would like to point out that over my thirty years of shooting muzzle and breech loading rifles, I have come to some different conclusions. How sad that I cannot discuss them with him, for I have found the following to be true for me:

I use a paper patched bullet in my .577 muzzle loading Enfield and also a cannellured, and I have found both to give fine accuracy. The depth of rifling in the Enfield is approximately .014" at the breech. Also, I shoot both paper patched and cannellured bullets in my Martini Henry which has a rifling depth of .009" at the breech and .007" at the muzzle, both bullets giving good results.

Out of my Gibbs Metford .461, I can shoot either paper patched or cannellured bullets; the depth of rifling being approximately .002" - .0025" deep and I have never experienced any bullet stripping.

I could write about the hardness of lead, but that is another story.

I do not quite understand what this fine gentleman refers to when he says that "the deep grooving - from .003 to .005-inch in depth - cutting and destroying the patches, with very unsatisfactory ballistic results." How else can the patch be removed? You do not want it to stay on the bullet?

The depth at which the bullet is seated in the case and the hardness of the lead chosen is important with paper patched bullets in breech loading. If fire formed cases are used and seating a bore riding paper patched bullet, and the bullet is deep-seated in the case, you will find that when fired, the paper patched bullet expands in the case. Sizing the case down to the diameter of the paper patched bullet not only offers a more rigid seating for the bullet but it holds it more in line with the rifling. An ideal depth for seating a paper patched bullet in the case is approximately .250" - .200".

The permutations and combinations of paper patched bullets, cannellured bullets, rifling depth, lead hardness and so on are innumerable and discussion could go on.

Another point, when wrapping the paper round the bullet, the first wrap I put on dry, the final wrap I put on wet (with a spittle lick); not compulsory, water and sponge might be just as good, even with a drop of washing up liquid.

The paper I use is 100% rag paper, which I get from Scotland, with a thickness of approximately .0025". A thinner paper, like best quality air mail paper is also very good.

And yet another point to consider when casting paper patched bullets of a length greater than 1.3" (and for cannellured), some bullets I found were cast with a slightly shrunken section towards the middle of the bullet. This may be caused by the mould being too hot from rapid casting so the moral here is slow but sure, fast don't last.

Vic Nock

BLACK POWDER DELIVERY SERVICE

For a small charge, we can arrange to deliver most powders to our Bisley shoots. This should help members who have trouble getting hold of powder, especially Swiss.

To place your order, phone Clive Taylor or Phil Morgan or E-mail clive@ssbpcrc.co.uk or phil@ssbpcrc.co.uk

You will need to supply a copy of your current RCA - POMSTER document and Form COER 3 - CERTIFICATE TO ACQUIRE AND KEEP EXPLOSIVES and pay by cash or cheque on the day.



For some of the finest original rifles and accessories you're likely to come across, check out Dale Murphy's web site:

www.cmsantiquearms.com

Tel: 01530 813540 Mobile: 07887 853490

Reading & Viewing

Because I was so impressed with this book when I first read it, and also because I now feel I know him a little, I'm once again recommending Mike Venturino's latest book. It is a superb reference book for experts and beginners alike, and it is:

- SHOOTING BUFFALO RIFLES OF THE OLD WEST by Mike Venturino

The book covers the different types of rifles which constitute a "buffalo rifle", basic reloading for all the popular calibres, including a section on reloading match-grade ammunition. It is an invaluable source of reference, giving in-depth histories of these rifles and listing many pet-loads used by some of the well know names in BPCR shooting. 288 pages.

Published by MVL Enterprises, PO Box 914, Livingston, Montana 59047, USA

Priced at \$30 + p&p.

Sample of contents and order form on-line at: www.ycsi.net/users/mlventurino/

Editor's Note: See also Page 16 for the serialisation of Chapter 11 ... Basic Reloading For Buffalo Rifles

- A GUIDE TO THE BALLARD BREECHLOADER by George J. Layman

Price \$20 + p&p

Available from Buffalo Arms Co.
Tel: 001 (208) 263 6953

Don't forget to book if you wanna shoot ...

If you want to enter any of the shoots, please send your entries off **IN GOOD TIME** or you may be disappointed. It helps to plan the number of targets and squadding, making the shoot run smoothly on the day.

Also, we will not accept money or entries on scraps of paper during comps. unless you write clear instructions who it's from and what it's for. Writing on the back of cheques what it's for, e.g. competition name, powder, etc., makes it easier.

Thanks for your co-operation. ☺

NEED A BED FOR THE NIGHT?

If you need to get to Bisley for an early morning start and can't face the drive, stay overnight in The Muzzle Loaders Association of Great Britain Clubhouse. You can't miss it; it's the red and white striped colonial building with the canon outside, just up from the NRA offices.

The Exhibition Hut as it is called, gets its name from the days when it used to house all the great shooting trophies. It has 6 heated bedrooms with 2-4 bunk-beds in each. There are mixed toilets and showering facilities, and whatever time you get there, you'll be able to make a hot drink and watch TV.

Open from March to September

Rates £11 (non MLAGB members £13)

Book through: Roy Ricketts, Beggars Roost, 70 Victoria Road, Bidford-on-Avon, Warcs. B50 7AR
Telephone: 01789 490076



The Exhibition Hut, in all its colonial splendour, is the clubhouse of the Muzzle Loaders' Association of Great Britain. Staying overnight can take the hassle out of getting to an early morning shoot on time.

The Bad Old Days...

Did you know that in the 15th Century most people got married in June because they took their yearly bath in May and still smelled pretty good by June. However, they were starting to smell, so brides carried a bouquet of flowers to hide the body odour!

Revised dates for Bisley 2003

Revised dates for this year (correct at printing)

<i>Silhouette #1</i>	300/500	29 March
<i>Buffalo #1</i>	200/600	26 April
<i>Creedmoor</i>	1000	3 May
"THE Man Down Under" #1	300/600	14 June
Precision Match	300*/600	26 July
<i>Silhouette #2</i>	300/500	23 Aug.
<i>Buffalo #2</i>	200/600	27 Sep.
"THE Man Down Under" #2	300/600	25 Oct.

* The number of targets which we requested for the morning at 200 yards on Short Siberia range could not be supplied, so we'll be shooting at 300 yards on Century range instead.

Practice dates and details of additional shoots will be published nearer the time.

PRECISION MID AND LONG RANGE VERNIER TANG SIGHTS ... GOODWIN STYLE FOR SHARPS, REMINGTON ROLLING BLOCKS , ETC.

Quality replacement vernier tang sights for Pedersoli Sharps, Rolling Block, and others. Goodwin style design allows for rodding through without disturbing the sight ...

From £220

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Broom,
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Rifles & Stuff

Rifle pin-up # 3 ...



This beautiful 1885 Win. Hi-Wall rifle belongs to Al Lee of Forsyth, Montana. It has a 30" barrel and chambered for the .40-70 Sharps Straight (2½") cartridge. The rifle has a fiddle back walnut stock and lots of engraving including Al's own cattle brand inlaid in gold on the action. He says that it's a fine shooter and valued at around \$7000. I don't doubt him for one minute on either count! The sights are C. Sharps long range, and in fact the rifle was presented to Al by C. Sharps Arms Co. at the 2002 Quigley match. Thanks for nominating your rifle for our pin-up section, Al.



Rifle pin-up # 4 ...



A fine Shiloh Hartford Model in .45-70 (2.1") sporting its new stock, more suited for long range work. No prizes for guessing who it belongs to. The replacement stock was fitted by a friend who just happens to be a stocker and finisher for James Purdey & Sons ... sometimes you just have to pamper your favourite rifle; and besides, I felt the best rifle deserved the best treatment!

Note: No comments about my grass needing cutting ... I get enough of those from my wife!

**... and if you want to know
when you are squadded and
you're not on e-mail, please
enclose a SAE as it states on
the form. Thank you.**

VIC'S LUBES

A short article on lubes for long or short bullets for rifles .40 cal. to .577 cal.

by

Vic Nock

These lubes are fairly easy to make and I have found them satisfactory. I always use a double boiler for their preparation.

The first two are mixtures of:-

Beeswax, lanolin and PURA (vegetable cooking fat).

Hardness is regulated by the amount and type of beeswax, some wax is quite hard and white, other is much softer and more yellow. The latter seems to work better. The lanolin is lambs wool, raw state, or lanolin in near pure state obtainable from some chemists or pharmaceutical companies. The PURA is obtainable from most grocery stores.

Method 1

Beeswax	1 part by weight
Lanolin	1 part by weight
Pura	2 parts by weight

Method 2

Beeswax	2 parts by weight
Lanolin	1 part by weight
Pura	2 parts by weight
Plus Murphys soap oil	2 parts by weight

Method 3

Beeswax	1 part by weight
Lanolin	2 parts by weight
Cod liver, olive, castor or watchmaker's oil	2 parts by weight

For some twenty years I have used Lanolin as a base for lubes. It has some unique properties and was

originally used for case and bullet resizing and for swage bullets when smeared on the lead core. Excess causes the case to buckle. You have been warned! But it is the best.

I have used these types of lubes successfully but accept no responsibility for your results. I would be interested to hear your views or results on any alternatives.

Yours enthusiastically

Vic Nock

Editor's Note:

If anyone out there has a lube recipe that their great grandfathers (or grandmothers) used to make, and you are willing to share the "secret" with the rest of us, please send it in.



INTER-CLUB CHALLENGE

Just a reminder about the Inter-Club Challenge to be held at Diggle ranges near Manchester on Saturday 2nd August. The course of fire is likely to consist of the best 10 from 12 shots on a Bisley-type round target followed by 10 shots at steel javelina silhouettes at 400 yards; then the best 10 from 12 shots on a Bisley-type round target followed by 10 shots at a ¼ size steel buffalo silhouette at 800 yards. If this challenge appeals to your competitive urges, let us know about it.

The plan is to travel up on Friday evening and stay in a B&B or similar "cheap" establishment (if it sells beer, so much the better). This will ensure that we're refreshed and ready to do battle on Saturday.



What it's all about ... Vince Bottomley with a couple of the Diggle porkers.

Picture courtesy of Vince Bottomley.

**Coming soon to a
range near you ...**

**QUIGLEY
“THE Man Down
Under”**

... miss it and weep!

**Bisley
14th June
25th October**

Thought you'd all like a sneak preview of the custom-made trophy which will soon reward the aggregate winner of the newest competition in our shooting schedule. The trophy stands 12 inches tall and, in keeping with the spirit of the film “Quigley Down Under”, consists of a silver bucket (minus bullet holes) inset into a block of oiled oak which started life about 130 years ago ... about the same



The annual trophy, sponsored by Peter Starley of Warwick.



Close up of the Shiloh Sharps silver buckle, showing the fine quality of workmanship.

time as the rifles that we shoot were being developed. The knots and splits in the wood all add to its character.

Inlaid into the wood is the Shiloh Sharps buckle, crafted with silver and gold electroplate by Montana Silversmiths. Because of its special tarnish protection finish, silver cleaner or polish must NOT be used to clean it; mild soap and water will do nicely.

Also, an additional prize, in the form of a wooden bucket (complete with rope handle!) will be awarded for the highest number of buckets hit over the two matches. It will be known as the “High Bucket” award. Some may think this is going over the top but it's all in the name of fun and we don't care anyway!

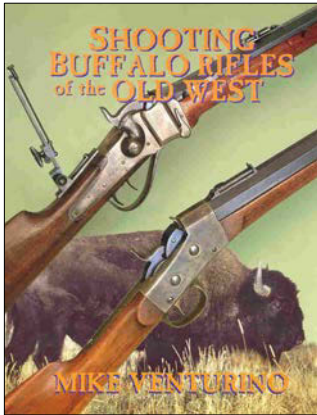


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We continue our serialisation of Chapter 11 of Mike Venturino's new book, *Shooting Buffalo Rifles of the Old West*.

BASIC RELOADING FOR BUFFALO RIFLES

BULLETS, ALLOYS, SIZING, AND LUBRICANTS

Bullets are the heart of reloading. Good ones fly true. Bullets that are the wrong size, wrong length for the rifle's twist rate, carry the wrong lube or not enough of it, or are poured of the wrong alloy, are a waste of time.

First off, let's address the often-asked question of whether gas check or plain base bullets are best. Without a doubt the former type are capable of fine accuracy, and I almost always use them when loading smokeless propellants.



Bullets for black powder reloading should have wide and deep grooves, and their dimensions on both nose and body must fit the rifle in which they'll be fired. Over the years the author had all these custom moulds built. From left they are: Old West 366 grain .40 caliber, Hoch 410 grain .40 caliber, Tom Ballard 465 grain .44 caliber, Hoch 500 grain .45 caliber, and Hoch 550 grain .45 caliber.

That said, I almost never use them when reloading for buffalo rifle cartridges because I am working almost exclusively with black powders. Most of my buffalo rifles get fired in one sort or another of competition, and many such events do not allow gas checks. The wads used in black powder loads serve the same purpose as gas checks and those will be covered shortly.

The primary thing I will say about a cast bullet is that it must fit the barrel in which it will be fired. And that pertains to both its diameter, and its length. Back in the buffalo hunting days common rifling twists were one turn in 20 or 22 inches for .45 calibers, one turn in 20 inches for .40 calibers, and one turn in 36 to 42 inches in .50 calibers. The U.S. Government put 1-22 inch twists in Trapdoor Springfield Model 1873s, while Sharps used a 1-20 inch twist for their .45s. Generally speaking the faster the rifling the longer the bullet it will stabilize. Another general rule is that in long-range shooting the heavier a bullet, the better the downrange performance.

When competitions using buffalo rifles got going strong back in the 1980s one thing shooters began to notice was that quite often a load would give fine accuracy to a certain distance, but after that it would become erratic. Therefore, we began tightening up the rifling twist rates of our rifles. For instance, at that time Shiloh put 1-20 inch twists in all their .40 and .45 caliber rifles. Shooters first prevailed on Shiloh to tighten their rifling twists in .45s to 1-19 inches, and 1-18 inches in the .40s. Downrange accuracy with long, heavy bullets got better. Then shooters asked Shiloh for 1-18 inch .45 barrel and 1-16 inch .40 barrels and that has just about become the standard now for all modern manufactures. Although .50 caliber rifles are used much less often in long-range competitions, several barrel makers have settled on 1-26 inch twists as optimum for that bore size. These twist rates will stabilize bullets as long as 1.50 inches. Depending on exact bullet shape, that translates into .40 caliber bullets in the 420 to 440 weight range, and 530 to 560 grains in .45 caliber.

There are two other ways in which a bullet should fit a rifle barrel. Its body must be big enough in diameter to fill the barrel's grooves, and its nose must fit into the lands. Personally, I order moulds that drop bullets with their bodies at—or at most .001 inch—over the barrel's groove diameter, and with their noses .002 inch under the barrel's land diameter. Here's an example. Let's say a .45 caliber barrel is .450 inch in the lands, and .458 inch in the grooves. Ideally then I want a bullet to drop from the mould at .458 inch over its main body, but have a nose measuring .448 inch. Some people like the bullet nose to be only .001 inch under barrel land diameter, but shooting in the low humidity of the west, I find that another .001 inch of ease helps when fouling begins to build up. However, it should be noted that when very soft bullets are slapped by black powder during ignition, their noses

can be deformed or even slump to one side or the other if too small. I use a fairly stiff alloy of one part tin to 20 parts lead and do not experience a problem with bullet noses deforming. However, with some original buffalo rifles having oversize barrels, using a very soft bullet and counting on the black powder to slug it up to fit is the only way they can be made to shoot with any sort of accuracy. We will talk more about bullet alloys shortly.

There is a very simple and fast method to check bullet nose fit to your barrel. Just insert a sample bullet nose first into the muzzle of your rifle. It should slide in with just a little clearance, but it should not wobble about. If the bullet is a tight fit then there will likely be chambering problems caused by fouling after firing only a few shots. If the bullet's nose will not enter the rifle's muzzle then it is a hopeless fit, and all cartridges loaded with that bullet probably will not even chamber.

Before leaving this topic of bullet fit, the concept of slugging a rifle's barrel should be mentioned. Not all are the same. Some .45 caliber barrels will measure .458 inch in the grooves Others are .457 or even .456 inch. Some barrels are built with a choke or taper near the muzzle. With vintage rifles it's anyone's guess as to what they will actually measure. As mentioned elsewhere in this book I have actually slugged the bores on original Sharps Model 1874s in .44-77 caliber that ranged from .446 inch to .457 inch. I would recommend that all buffalo rifle shooters, both of vintage and modern reproductions, slug their barrels to determine their exact specifics. *Lyman's Cast Bullet Handbook 3rd Edition* has a chapter detailing exactly how to do that.

Personally, I keep a variety of the pure lead, round balls sold by Speer and Hornady for muzzleloaders onhand for that purpose. To slug a barrel I lightly spray one with oil and, with a wooden mallet, gently tap it (lead ball) into the rifle's muzzle. For a .45 caliber barrel I use a round lead ball measuring .490 inch. For .40 caliber barrels I start with .451 inch ones. Once the ball passes the rifle's muzzle then it is tapped several more inches further using a brass punch **taking care not to strike the barrel itself with the punch**. Thereafter, the slug is knocked on through the barrel with a wooden dowel. This lead slug is now engraved with that barrel's rifling imprint, and can easily be measured with calipers or micrometer.

Here are two caveats: If the barrel has an odd number of grooves such as the three groove ones the U.S. military favored on rifles in the late 1800s, the slug is virtually impossible to measure without a special fixture or a deep understanding of trigonometry. Caveat number two is that if the barrel being slugged is choked near its muzzle the slug will drop on through after it clears the muzzle. Such barrels should be slugged again from the breech end

in order to learn anything.

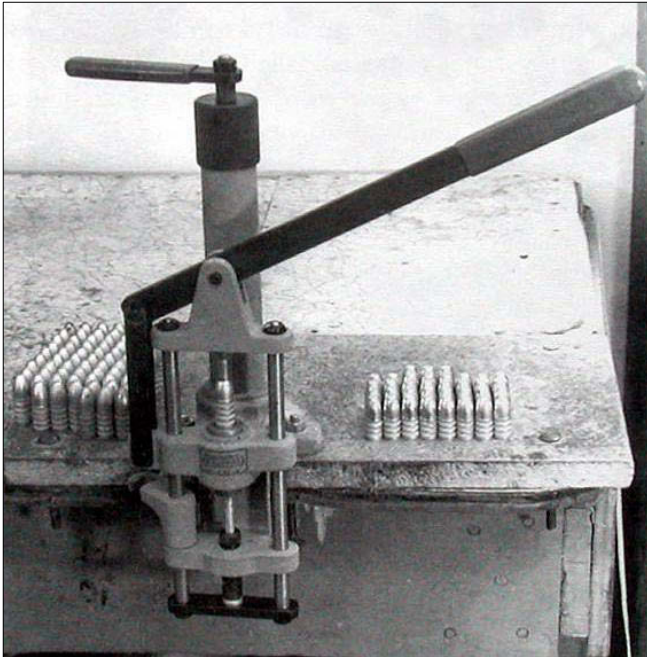
Many novices to buffalo rifle shooting enter the sport thinking they can just cast their bullets from any old scrap alloys as pistol shooters are wont to do. And it is true that many rifles will shoot amazingly well with scrap lead alloys. I've put a ton or two of wheelweight alloy downrange myself. However, if the competition bug bites the buffalo rifle shooter, then he will want to settle on a specific alloy such as a blend of pure lead mixed with pure tin. That's for two reasons. One is that if the alloy is known exactly, then it is repeatable once a good load has been discovered. Two is that blends of pure lead and tin give less leading than alloys containing antimony. This goes against the old cast bullet shooters' wisdom that harder is always better. With black powder loads, harder alloys often give worse leading because the bullet's base does not obdurate. Gas leaks past it, melts particles from it, and plates the rifle's barrel. Softer bullets of lead and tin will obdurate and usually give less leading, if any at all. When they do lead it is much easier to remove. Once I owned a rifle in .40-70 Straight caliber that shot much better with antimony-hardened bullets than with mixes of lead and tin. I did spend a considerable amount of time cleaning leading out of it, and so eventually had it rebarreled.

Shooters vary on their favorite alloy blends. Some use 1-30 tin-to-lead, some 1-25, and others 1-20. Lead alloys are rated by hardness with a BHN (Brinell hardness number). Most sources rate pure lead at five, while linotype is 22. Blends of 1-40 are 8.5, 1-30 is 10, and 1-20 is 11. After trying literally every alloy from pure lead to heat-treated wheelweights (BHN of 24) I have settled on 1-20 alloy for most of my shooting with buffalo rifles. The exception is with my original Sharps and Remington .44-77s. They can be loaded with bullets no larger than .446 inch, but have .450/.451 inch barrel groove diameters. Therefore, I use very soft 1-40 bullets in them, relying on the powder's explosion to make them expand and fit the barrel.

Once an alloy is chosen and bullets are cast, there are the factors of lubricant and sizing. The sizing part is simple. If the bullet is poured in a mould of good concentricity matched to the rifle then no sizing at all is best. Many reloaders of buffalo rifle cartridges run their bullets through lube/sizing machines because it is the fast way to apply lubricant. However, they purposefully use sizing dies .001 inch or so larger than their bullets so that it never actually touches the projectile.

This is my method: My .45 moulds are ordered to drop .458 inch bullets, and they are then passed through a .459 inch dies. My .40 caliber moulds are ordered to be .408/.409 inch and are then run through a .410 inch die. Occasionally, however, a bullet mould will be encountered that drops slightly oversize bullets, and for hunting type loads I have

seen no great loss of accuracy in sizing them down .001 inch or so.



There are two methods to apply lubricant to cast bullets. The lube/sizer machine will do it and size bullets to a specific diameter at the same time.

Other shooters prefer to pan lube their bullets. This method simply entails setting the bullets in pans and pouring melted lube around them. After it solidifies the bullets can be pressed or cut out. Both lubing methods work well. Pan lubing works well if large quantities of bullets are being prepared, while the lube/sizing machine is more efficient if 15 or 20 each of several different ones are being loaded such as when developing and testing loads.

If I were to pick a component as most critical to good black powder cartridge shooting it would be bullet



Some reloaders prefer to pan-lube their bullets wherein melted lubricant is poured around them. This method works well for bullets that come from the mould at the proper diameter.

lubricant. The prime enemy of accurate black powder cartridge shooting is the hard fouling left by black powder. With cast bullets fired over smokeless propellants the purpose of the bullet's lube is to simply prevent leading. With black powder loads a bullet lube's purpose is two fold. It should prevent leading and it should also mix with the black powder fouling in order to keep it soft. That's why modern hard bullet lubes work so poorly with black powder. They will not mix with fouling, and as it accumulates in the rifle's barrel it starts to damage bullets as they are fired. A correlating factor is how much black powder lubricant a bullet will carry. Note any bullet actually designed back in the black powder era; they had very large, and deep, grease grooves so they would carry plenty of lubricant. In fact a way to check a rifle to see if the bullet is carrying enough lube is to wipe a finger across the muzzle after firing a string of shots. If it has soft black grease on it, then the lube is keeping fouling soft all the way to the muzzle. If the fouling is hard then the shooter should consider a different bullet and/or lubricant. (It must be said that this little test should not be done on a day of severe weather conditions, as extreme heat or extreme cold will also affect that lube star at the muzzle.)

As stated elsewhere in this book Steve P. Garbe was the first to actually market a special bullet lubricant just for the black powder cartridge shooter. From 1987 until 1995 I was partners with him in SPG Lubricants, but then sold him my share. That I have rarely used any other bullet lube since 1986 is testimonial to the fact that I think SPG lube works well. Another testimonial is that for years it has been the single most-used bullet lubricant in the NRA's BPCR Silhouette National Championships. However, there are many other black powder lubes on the market now. Some are advertised to be better for hot weather climates. My advice to black powder cartridge reloaders is to try several lubes, and then settle on one while other variables are tested.

To this point I have purposefully avoided mentioning specific bullet designs. When I first began reloading for buffalo rifle cartridges there were precious few suitable bullet designs being offered collectively by the bullet mould manufacturers. Lyman had a few .45 and .50 caliber designs, and there were a smattering by other makers. How all that has changed! There are now so many different bullet mould designs being made specifically for buffalo rifles, that it is not possible to list them all. Lyman, Redding/SAECO, RCBS, Rapine, and NEI all have a wide variety of cataloged .40, .45, and .50 caliber versions. Furthermore, there are a number of custom mould makers such as Steve Brooks, Paul Jones, Hoch Moulds, and Pioneer Products willing and capable of making almost any projectile type a customer asks for. Mostly these custom makers lathe bore their moulds so each one is an individual.

Another word of truth that can be said about

ammunition used in original buffalo rifles of the 1870s is that mostly the hunters relied on paper patched bullets. There will be a chapter on them further along. I have paper patched several thousand bullets in my years spent shooting buffalo rifles, and found the process so time consuming I put it off to the end during the preparatory work for this book. The companies selling ammunition suitable to buffalo rifles in the 1870s offered both grease groove and paper patch options in most calibers. We will stick with grease groove bullets for now.

A look at the bullets offered in original buffalo rifle ammunition shows that manufacturers paid little heed to their exact shape. Some had small flat noses. Others were roundnoses, and some actually were fairly pointed. Today the common wisdom is that a bullet with a wide flat nose is a better hunting bullet. I think riflemen of the old days relied on bullet placement and tracking skills rather than immediate shocking power. In each of the data sections specific bullets are used and the results reported. However, here I think it is safe to list some favorite hunting bullets. Coincidentally, all that I have used for my own hunting have come from Lyman moulds, and interestingly, those basic designs have existed for over a century. Perhaps that means their original designers knew what they were doing? For small deer such as the south Texas whitetails that I have had occasion to shoot, Lyman's #457122, 336 grain hollow-point is a fine choice in .45 caliber rifles. On larger mule deer it is not apt to penetrate fully, so a 400 or so grain flat nose may be better. Lyman also makes #457193, which hunters for over 100 years have liked. From my moulds this bullet weighs about 420 grains of 1-20 alloy. I have used #457193 on Montana mule deer, but have never shot an elk with it. My erstwhile partner, Steve Garbe, has taken several elk and one bison with it and reported complete penetration on them. Lube grooves on this design are fairly small, and my experience is that fouling will build up when using it to the point that there is a significant loss of accuracy inside a 10 shot string.



These four Lyman cast bullet designs have been around for over 100 years. From left they are: #457122 (336 grain HP), #457193 (420 grains), #457125 (520 grains), and 515141 (450 grains). All weights are for 1-20 alloy.

When critters get big like bison, then I think it's time

to turn to longer , heavier bullets. It is my opinion based on experience that Lyman's old "government" bullet, #457125, a 520 grain roundnose usually will completely penetrate a bison bull from almost any direction. However, that experience has also shown that the roundnose shape doesn't impart considerable shock to the animal on impact. In fact I've seen several bison hit with it in the heart/lung area that showed absolutely no signs of distress. That is, until they fall over. Converse to #457193, bullets from mould #457125 carry a sufficient supply of bullet lube, and for that reason this bullet has been used with success in match shooting also. In fact I liked Lyman's #457125 bullet so much that with any new .45 caliber black powder cartridge rifle that I acquire it is the first one test fired.

Although I used a Shiloh Sharps .40-70 Bottleneck for my African hunt in 1985, little of my hunting since then has been with .40 caliber rifles, so I venture no opinions on specific hunting bullets for them. My inclination would be to pick a .40 caliber bullet style with a wide flat nose due to its relatively small caliber. However, I do still hunt with a .50-70 Lone Star Rolling Block, and use only the Lyman #515141, again a facsimile of the bullet used originally by our government in its military loadings. Although weighing only 450 grains that bullet has reliably dropped everything I've hit with it, including a one ton bison bull.

Editor's note: Once again Mike, my sincere thanks for allowing me to print this chapter from what I truly consider to be the best book on modern-day buffalo rifle shooting that I have ever read ... may your bullets always find their mark!

IN THE NEXT ISSUE: ***POWDERS***

Other books by Mike Venturino:

SHOOTING SIXGUNS OF THE OLD WEST

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