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February 2021

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Our February cover

Learning from the best - page 22

## NEXT ISSUE



Shotgun writer John McDougall laid his hands on the 686 Silver Pigeon 1, the latest from Beretta's 680 stable and one which he says will be perfect for anyone who "wants to be into the groove of breaking clay targets".

Con Kapralos has been using a custom Tikka T3 in .243 Winchester built by Precision Defence Industries, an Australian company he says will build the hunter or shooter a firearm tailored to their exact requirements.

Regular contributor Brad Allen has gone back to his youth and written an entertaining account of some of the classic hunting cartridges he's had the pleasure to use down the years, his article sure to provoke more than a few memories.



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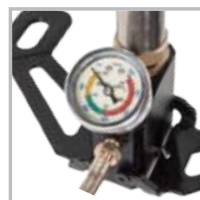
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# National AGM roundup

## Lance is our new president

The Sporting Shooters' Association of Australia held its first-ever digital AGM in late November, commemorating a challenging yet memorable year for the Association. Around 50 delegates attended the 58<sup>th</sup> Annual General Meeting, held online for the first time in SSAA history due to the COVID-19 pandemic.

The belated meeting reported on national activities during 2019, many delegates saying that now seemed a lifetime ago. While confronting, the year was very productive and brought a rise in female membership along with an overall increase of three per cent, nearing the milestone of 200,000 which has since been surpassed.

After more than six years at the helm, National President Geoff Jones stepped down and now fills the executive position of Past-President, his place taken by businessman and former Senior Vice-President Lance Miller. Lance wears many hats and was previously chairman of a commercial board and President of SSAA NSW.

He takes on the presidency with years of professional experience and, as a hunter, knows first-hand the needs of the shooting community. "I'm a hunter and recognise the valuable contribution our sport's disciplines make to this organisation, especially providing volunteers to manage ranges and essential training for new shooters," he said. "I believe strongly in inclusive communication and am willing to work with our members and other shooting and associated sports groups with the intent of supporting our sport."

Lance is also looking forward to working with all the SSAA states and territories when advocating for sporting shooters,



**New President Lance Miller.**

public relations, training and safety. The meeting sent its thanks to Geoff for his tireless efforts as President during the past six years and welcomed Lance to the role. Victorian President and former Junior Vice-President Denis Moroney steps into the role of Senior Vice-President.

Denis's background is in the ownership and management of multiple small businesses and he was heavily involved in motor racing for many years. He held the position of SSAA Junior Vice-President for three years and sits on the national SHOT Expo and finance sub-committees as well as being on the SSAA Insurance Brokers board.

Junior Vice-President is now Hellen Gill of Queensland who is also President of that state. Without change is the position of Secretary which is retained by Kaye McIntyre, while Alf Bastian will continue in his role as Treasurer and Public Officer. ●



**Denis Moroney**  
Senior Vice-President



**Hellen Gill**  
Junior Vice-President



**Kaye McIntyre**  
Secretary



**Alf Bastian**  
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## Don't burden the taxpayer

FURTHER TO THE suggestion a search and rescue group for lost hunters be established, I feel compelled to comment in defence of the long-suffering taxpayer. In spite of Dave Tadic's assertions that "risks and costs involved with these types of searches should remain with the relevant authorities" (*Shooter*, July 2020), I feel the taxpayer should not be burdened with the cost of recovering 'lost or injured hunters' other than in extreme circumstances.

Perhaps the 'user pays' principle should be applied. Enough of this mollicoddling of what are essentially irresponsible thrill-seekers who come to grief because they're ill-prepared, ill-advised, ill-equipped and inconsiderate in that they can't take steps to avert these situations. If a hunter can afford the financial outlay of suitable equipment such as firearms, ammunition, hiking and camping gear, the same hunter can hire, borrow or buy an EPIRB or GPS-enabled satellite phone (with dead-man function) to alert said authorities as to their situation, location and state of health.

Failure to do so would suggest it's more imperative for these urban commandos to rush off on their great adventure and by failing to take basic responsibility for their wellbeing and safety, they're creating a problem for poorly recompensed rescuers who are quite possibly volunteers. The same applies to those who go climbing, abseiling, bushwalking etc.

Ross Golden, via email

## Something to savour

WITH REFERENCE TO the letter from Juel Briggs (*Shooter*, November 2020). You say: "The first thing I do on receiving my copy of *Australian Shooter* is turn to the back page and read John Dunn's Jumbunna column." You go on to fulsomely praise John's articles.

I believe this is a classic example of 'life's too short, eat dessert first' and while I sympathise with this approach, especially in the year that was 2020, I look at Jumbunna quite differently. I consider John Dunn's writing to be something savoured as an exquisite dessert after a wonderful meal of advice, experience and wisdom provided by the many other regular and intermittent authors who contribute to our magnificent magazine. We're extremely fortunate to have so many competent and capable shooters to inspire us to increase our skills and knowledge and always continue our learning.

Without any contention I agree Jumbunna, as you say, is pure poetry - John tugs at our hearts as well as our minds, so I tend to save his article for last. It is, in essence, the sweet finish to a wonderful few hours of reading. I've read Jumbunna for more than 20 years and, like you, would be very grateful to be able to buy a collected works. John, please keep writing forever.

Ken Sullivan, NSW

- A few remaining copies of *The Jumbunna Collection* (\$16 + P&P) are still available and can be ordered by emailing footsteps5350@gmail.com

## More Jumbunna to enjoy

JUST A NOTE for Juel Briggs based on her letter 'In Praise of Jumbunna' (*Shooter*, November 2020). I think you're one of many Juel, although I like to save my favourites for last so keep Jumbunna until the end. I highly suggest you look up John's book *In the Footsteps of my Father* - I put it on my gift suggestion list a few months back and received it in September for Father's Day.

I'm only about half-way through but John's writing style shines through and I'm sure you'll enjoy it (my wife bought my copy online from Elk's Hunting and Fishing in Albury, NSW). There's a reference at the start of the book with regards to a Jumbunna compilation but I'll leave that as a surprise, or your Google ability. Enjoy.

Matthew Gray, NSW



## Insurance Q&A with Trevor Jenkin

Send questions to: [communications@ssaa.org.au](mailto:communications@ssaa.org.au)

**Q** I'm going on holiday and plan to leave my firearms at my brother's home. Would they be covered under SSAA Member's Firearms Insurance?

Brian Matthews, via email

**A** Unfortunately the answer is 'no'. The policy is designed to cover firearms owned by you and kept at your premises for accidental damage or against fire, theft, colli-

sion and other specified events. The policy excludes any damage, destruction, theft or loss which occurs while your equipment is in the possession of anyone other than you or a member of your immediate family.

The policy definitions states immediate family as being your mother or father, spouse, civil or domestic partner or son or daughter who permanently lives with you and is over 18. It also defines the premises

as those where the firearm is registered. It's important that if a member of your immediate family does have possession of your firearms they comply with any law relating to either storage, use or handling of that firearm. If they don't, cover will be excluded.

For any insurance-related matters, contact us on (08) 8332 0281 or visit [ssaaib.com.au](http://ssaaib.com.au).



## Century-old slug puzzler

I'M A BIT of a woodworker and was visiting my old friend Des Hall in Tamworth. Des is 92 and has long been a member of the woodworking club at Tamworth craft centre. He had some gidgee logs which had been dropped off at the centre by a bloke who'd salvaged them from a 100-year-old fence out near Lightning Ridge and he asked me if I'd like a couple of pieces which I readily agreed to. I took them back to Sydney and couldn't wait to put one through the bandsaw for a look.

There was a wound in one full of sap which had hardened into a crystal-like substance and I thought I'd better clean it out before I ran it through the saw. To my surprise, there was a slug which had been shot into the tree at some stage and bark and wood had grown around the wound and embedded it. If the fence is 100 years old, the slug must have been shot earlier than that as the tree has had time to grow around it.

I only have kitchen scales but the slug weighs four grams. Would your readers have any idea what sort of gun this may have come from - could it be a small pistol or is there shotgun shot that large?

**Bob Gulliver, via email**

*• The bullet appears a bit squashed and no copper jacket remains on it. I believe it's possibly from a Colt or similar percussion revolver which fired a .31 ball/conical all-lead projectile. Bullets like this were used in fire-arms in Australia from around 1860-1900 by early settlers and probably law enforcement*

**- Barry Wilmot**



## The Lazarus shotgun

THESE PHOTOS ARE of a shotgun recovered from an old estate around the time of licence regulation changes. I've done some work to restore it to a healthy working condition but haven't been able to find any information on its maker or date of birth. Would any of your readers be able help?

**Ray Milne, via email**



## Scope story in focus

I WOULD LIKE to thank Dave Pearce for his excellent article about telescopic sights (*Shooter*, May 2020). It was easy to follow and clarified the significance of the various features available and I'm sure it will give intending scope buyers food for thought and more confidence with their future purchases.

**Tim Bowman, via email**

## Thanks for the advice

I WOULD LIKE to give a big pat on the back to Dave Pearce for his article 'Find the right scope for you' (*Australian Shooter*, May 2020). Fantastic to read a well written and eminently practical piece for both the novice and experienced shooter alike, looking for advice on the common issue of 'one size fits all' scope choice.

**Russell Smith, via email**



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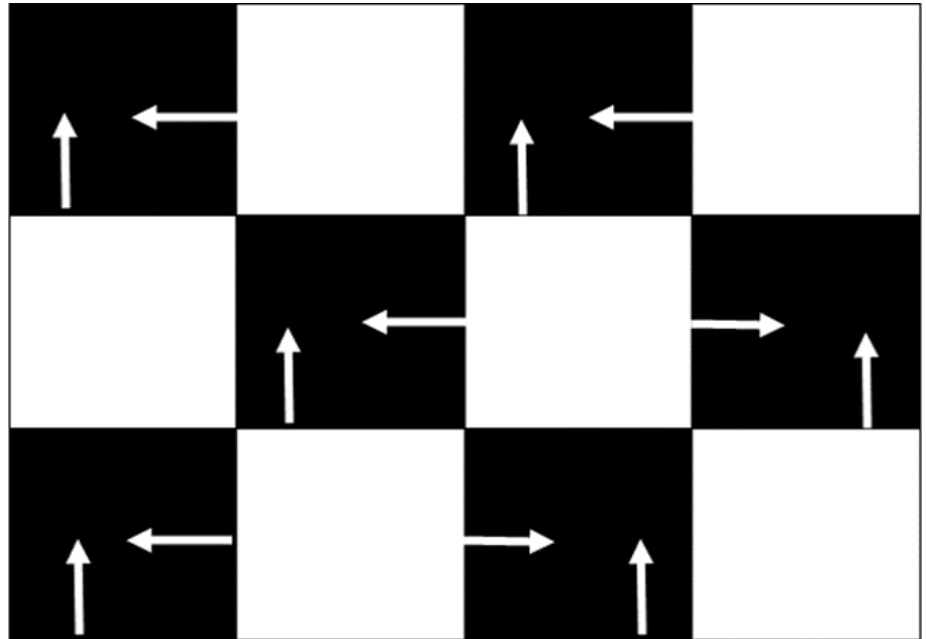
# THE LEGEND IS BACK.

## The forgotten tool of game management

In the lead-up to duck and quail season settings this year, I suggested hunting stakeholder groups highlight 'spatial control' as a key tool to achieve a sustainable harvest. We'd all love to have a clear abundance count to help reassure those outside the hunting community that our activities are sustainable but this is impractical with current surveys. Even though our vast land allows opportunity for the harvest of wild resources without impacting their long-term viability, many still don't appreciate this fact.

Spatial control is a way of regulating harvest by imposing controls on where a harvest can take place without the need to regulate how much harvesting can actually be done. To help understand this concept, the accompanying diagram from *Game Management – The Science of Sustainable Use* (Baxter et al 2009) represents a landscape divided into harvest areas (black squares) and no-harvest areas (white squares). In reality, these areas can be of any shape or size as long as the areas are in close proximity to each other to allow dispersal of animals from no-harvest areas to take the place of those harvested.

Generally there are no limits placed on the effort used to take animals or the number of animals which can be taken in harvest areas. Over time, the density of animals in hunted areas would reduce relative to that found in no-harvest areas and, as a result, resource availability in harvest areas would increase. This then leads to a compensatory increase in immigration



into harvest areas as animals from outside attempt to gain access to those resources.

This type of control is commonly practiced in fisheries. For example, the Great Barrier Reef Marine Park Authority has significant no-harvest areas where fishing cannot take place and this has resulted in increased catches in harvest areas because more and bigger fish are migrating out of the protected areas.

In the context of duck and quail game management, spatial control naturally exists. The number or size of harvest areas is insignificant compared to the number or size of no-harvest areas across the country.

**Harvest (black) and no-harvest (white) areas with compensatory migration flow (arrows).**

For example, my own calculations suggest there was 62 million hectares of stubble quail habitat in South Australia where hunters have access to less than 0.002 per cent of that habitat. That certainly provides natural spatial control which in itself ensures sustainability of quail hunting without even considering setting token bag limits.

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## The eventful journey of Marlin Firearms

**B**orn in Connecticut in 1836, John Mahlon Marlin served his apprenticeship as a tool and die maker and worked at the Colt factory in Hartford, CT during the Civil War. In 1870 he assembled an outstanding team of craftsmen and inventors and opened his own shop in State Street, New Haven where he began making his own line of revolvers and derringers. Eventually they went on to make shotguns and rifles and their high quality lever-action rifles made them the main competitor to Winchester, who at that time dominated the US sporting arms market.

During World War One, Marlin became one of the largest manufacturers of weapons in the world, producing the M1895 Colt-Browning machine gun and a later variation labelled the 'Marlin Gun', used in aircraft by the US and its Allies.

Around 1917, the Marlin company decided it wanted to promote its image as a 'sporting arms' makers and took over the machinery, inventory and designs of the Hopkins & Allen Arms Co. to expand its line of firearms. Hopkins & Allen had been founded in 1868 by a group headed by Charles W. Allen, but had recently run into financial difficulties and was forced to declare bankruptcy.

Although Winchester had dominated US firearm sales for years, in the 1890s Marlin's high quality lever-action rifles made inroads

into the market and soon overtook Winchester in sales. Marlin lever-action rifles had a side-ejecting and flat-topped action, allowing easy top mounting of telescopic sights which were becoming ever more popular with hunters in the field. They also allowed the spent cartridge to eject without hitting the telescopic sight, unlike the Winchester where ejected shells often struck the sight, sometimes causing problems.

The Marlin action was also heavier and stronger than Winchester's, meaning Marlin could sell rifles chambered for popular larger cartridges like the .45-70 without competition from Winchester. Marlin also chambered their hugely popular model 1894 lever-action rifles and carbines in handgun calibres including .357 Magnum, .41 Magnum and .44 Magnum, making them convenient for hunters who also carried handguns in those calibres.

In 1953, Marlin Firearms applied for and was granted a US patent for what they called MicroGroove rifling, this being different from the then-standard 'Ballard' or cut rifling. It had five grooves for every one-tenth of an inch bore diameter and the driving side of the lands were 'tangentially



Founder: John Mahlon Marlin

disposed', with the aim of reducing fouling in the barrel when the cartridge was fired. Rifles featuring MicroGroove rifling were introduced by Marlin in 1954 and meant a .22 calibre firearm had 16 grooves which were .014" wide as opposed to the old system where grooves were between .069" and .090".

Marlin stipulated in their catalogue that MicroGroove rifling had many advantages including ease of cleaning the bore, little or no gas leakage, lower chamber pressure, greater accuracy and higher muzzle velocity. Unfortunately for Marlin it was also found that when centrefire ammunition was loaded with cast lead projectiles, the accuracy suffered due to those shallow grooves.

Over the years Marlin Firearms has undergone a lot of changes including the purchase of H&R 1871 Inc, the largest manufacturer of single-shot rifles and shotguns in the world. In 2007 Remington Arms, part of the Remington Outdoor Company, bought Marlin Firearms then last year Sturm, Ruger & Co bought Marlin from the now-bankrupt Remington Outdoor Company.



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## A case of too little . . . then too much

Usually this column is emphasising the need to carry sufficient quantities of water to last throughout the day or until secure supplies can be reached again. Recently, however, there have been instances where there was way more water than anyone had believed possible or that anyone could have wished for.

While there's no doubt many parts of Australia were - and are - suffering from drought and have insufficient water to undertake their normal activities, other areas have been stricken with flooding rains and the accompanying storms which always bring considerable destruction.

Thunderous downpours are not exactly what burnt-out forests need to recover. Steady drizzling showers are required so valuable and vulnerable topsoil, now devoid of protective mulches, can receive the slow soaking needed to regenerate bushland. In many cases the heavy rain was probably sufficient deterrent for hunters and most stayed home. If they were attracted to hunting-related activities, it was perhaps reading or cleaning and repairing gear which occupied their time.

Hopefully it wasn't our readers who ignored the weather and ventured out to their favourite haunts in search of action, before suddenly finding themselves and their rescue featured on the evening news. Often our hunts take place in remote areas into which roads or tracks are not up to scratch and watercourse crossings in these conditions can be life-threatening.

Police are constantly warning suburban

Often our hunts take place in remote areas into which roads or tracks are not up to scratch and watercourse crossings in these conditions can be life-threatening.

motorists to avoid driving into flooded road crossings and with good reason - in remote areas it's worse. The lives of so-called 'fast-water' rescue teams are also at risk each time they attempt a recovery, and on several occasions last year we saw tragic incidents involving both rescuers and drivers. On unsealed roads and tracks, driving into flooded crossings can literally be fatal.

One notorious example from some years ago occurred on a washed-out crossing in which the current had gouged a 5m-deep channel in the creek bed, the hole completely obscured by raging floodwaters flowing over the road. The prime mover of a 'triple' plunged into the channel, followed by two of the trailers with tragic consequences, and while this example is extreme it certainly adds emphasis to police warnings about driving into unseen situations.

Of course, it's equally unwise to try walking or swimming across flooded streams no matter how well you know them. My worst experience in that situation was when a brown snake, also swimming across a flooded river in southern New South Wales, decided my head would form a useful platform on which to rest during the crossing. I'll leave you to imagine the flurry of activity in that muddy stream as I tried to deny the friendly reptile a resting place despite its insistence.

Clearly I survived triumphant but should have known better than to have attempted the crossing, because I've first-hand seen the roiling wave rushing down a dry creek after rain when a mixture of sheep droppings, sticks and assorted reptiles and logs lead the torrent.

Oh and did I mention it's not a good idea to camp in dry creek beds? Imagine a pile of rubbish like that engulfing your tent with you sleeping unsuspectingly inside. And I imagine climbing out of your sleeping bag wouldn't be a simple task in such a situation. So yes, it's always a good idea to ensure you have sufficient water with you in the scrub - just try to avoid any situation where you might have too much.



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**Q** I need some help regarding the purpose of the front sight on my shotgun. I'm hearing so many opinions on why I need a sight but never have to use it. I know that statement doesn't even make sense and I'm frustrated just thinking about it. Also, can you explain the use of a centre bead?

**Warrick Lester, Qld**

**A** It's a common question so don't feel frustrated. Firstly, the front sight. I know some elite shooters who don't even have a front sight on their shotgun but I assure you they're in a small minority. If you have a shotgun which fits you perfectly and are shooting in conditions that provide plenty of light on the end of your barrel, there's no doubt you'll break a great deal of targets without a front sight.

But you must be aware where the end of your barrel is and a front sight is an aid to achieve this, so I recommend you have one. I'm not suggesting you need the biggest and brightest front sight on the market as experience tells me that, particularly for new shooters, your eyes can be distracted from the object you're looking to hit to the object glowing on the end of your barrel. That, of course, is the number one rule in shotgun shooting - the old saying that shooting a shotgun is a game of pointing, not aiming, is on the money.

Over the years I've had the chance to coach in Japan several times and their shooting culture for some strange reason is to have the funkiest glowing sights they can

find. Their shooting population is quite old (you can't fire a gun in Japan until you're 20) and their notoriously bad eyesight makes them want to see the end of the barrel clearly and concisely. This, of course, only inhibits their ability to focus on a target travelling away from them at more than 100kms an hour and becoming vastly smaller very quickly. They tend not to hit much but their shotguns almost glow in the dark!

## The centre bead is a great aid for new shooters in learning the art of mounting the gun correctly...

Where shooters are caught out without a front sight is at night or in dull and fading light where identifying the end of the barrel in your fore-vision becomes difficult. Fore-vision is the key word in this equation. You only need to be aware where the end of your barrel is so your brain and eyes can make hundredth of a second calculations so you can pull the trigger at exactly the right moment, regardless of whether you're using swing through lead, pull away lead or sustained lead.

By knowing where the end of your barrel is, these decisions can be made more accurately in my opinion. In essence I suggest you have a front sight but don't use it to look

at, use it as a reference point in the front window of your vision. Remember, if you're a two-eyed shooter then the end of the barrel is your third eye. They all need to work together (if you're a one-eyed shooter, all it means is the end of the barrel is your second eye).

The centre bead is a great aid for new shooters in learning the art of mounting the gun correctly when practising dry firing at home. I advise people to use it as a training aid, but when you get out on the range or on the banks of a swamp somewhere, you really are past the point where you can use it to break your target. It can be beneficial after you've fired your shot to see how recoil of the shotgun has affected your eye alignment down the centre of the barrel.

If you find your eye is no longer perfectly aligned, the centre bead will highlight this problem and it may be time to have your stock looked at for a variety of problems which can include pitch, cast drop and length. Certainly a topic for another day.

I hope this explanation helps. This is a question I often hear from people who've been raised shooting rifles and pistols, where using the front sight correctly is an integral part of their success or failure. I do believe sights on shotguns are a necessary evil but when used correctly the good far outweighs the bad.



*Questions to Russell@GoShooting.com.au*

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LBW in an oval is the trademark of Lionel Weekes, now long retired but previously a well-known and highly skilled stock maker from Brisbane. Several gun parts suppliers (for example Gun Parts Corporation, [gunpartscorp.com](http://gunpartscorp.com)) list original replacement stocks with butt plates, though personally I'd keep your rifle exactly as it is, a custom piece with likely 82 years of Australian history including a well-made custom stock which forms an important part of its story.

**Geoff Smith**

**Q** I recently acquired a Browning Trombone rifle and was hoping you could shed some light on its stock maker, stamped LBW. I don't believe this is the original stock as it doesn't have an original metal butt plate. I've tried to find the correct replacement plate but have been unsuccessful to date, going on several wild goose chases.

The rifle is registered as a Browning not as FN and Firearms Registry tells me this is correct even though it was manufactured by FN. I've been able to calculate it's pre-Second World War, possibly 1938 (serial number 50790). This rifle isn't perfect but reminds me of when I first borrowed a Trombone in the late 1970s. Keep up the good work, I thoroughly enjoy the magazine.

**Anthony Cusinato, via email**

**A** The Browning 'Trombone' pump action .22 rifle was made at the Herstal factory near Liege in Belgium from 1922 until 1974. It's an 11-shot tube magazine repeater which has been very popular over many years in Australia. Your age estimate seems about right, although it's apparently difficult to precisely age this model.

On checking with Belgian firearms expert Alain Daubresse, it seems certain your rifle has been fitted with a replacement stock. The nice people at the Q-Store in Brisbane confirmed the impressed stamp of

**Q** I have a Marlin 22LR lever action rifle and would appreciate your advice on which scope might be best for it. I'll be using it mainly for target work but also the odd spot of rabbit shooting.

**Steve Ford, via email**

**A** As you're using a .22 rifle a four-power telescopic sight would be ideal for the type of shooting you intend to do. There are a great many models available to choose from but I suggest you buy one with a one-inch diameter tube and 40mm front or objective lens (these are designated 4x40). I would also choose one with straight crosshairs or go for one with 4-plex crosshairs but that's your personal choice as both would suit the type of shooting you intend to do.

**Barry Wilmot**

**Q** I recently bought two 12-gauge shotguns, a Hatsan Escort and Stoeger Condor, both with markings on the sides stating 3"/70mm shot shell length. Can I use shorter shells such as the 2¾"?

**Billy Hingston, via email**

**A** Well done for being cautious and asking the question about what shells you can safely shoot in these affordable and generally reliable hunting

shotguns. The markings you quote are a bit misleading as 3" shells are not 70mm, they're in fact 76mm - the 2¾" shells are 70mm.

Shotguns are marked on both barrel chambers with maximum length of shell the firearm is able to accept and fire while staying within the proof pressures applied to that firearm. Newly-made shotguns must be proofed by an independent proof house in their country of origin so that new or subsequent owners can be confident any factory cartridge up to the size stamped on the side of the chamber will operate efficiently and not blow up both gun and shooter. I say factory cartridge because reloaders are a law unto themselves and no manufacturer or proof house can be held responsible for foolish and unsafe reloading practices.

Unless you're using 3" (76mm) magnum hunting loads you'll most likely be using 2¾" (70mm) loads here in Australia. The 3" magnums usually kick like crazy in lighter shotguns like yours, so you'll probably find yourself more comfortable with the standard 2¾" shells which do a perfectly fine job with the right sized pellets for the game you're hunting or clay targets you may be shooting. It's also possible to buy 2½" loads made for the English and European markets where their light game guns are so chambered. In those guns you can't shoot 2¾" or 3" cartridges but 2½" loads would also be fine to shoot in both your guns.

With both your guns being confusingly marked 3"/70mm I think you're safe firing anything up to a 3" shell and am certain 2¾" (70mm) shells would be fine. If you're still in doubt, take them to your local gunsmith or the store you bought them from and have the chambers measured to confirm the markings are correct. Then get out there in your nearby hills or valleys and have some fun.

**Paul Miller**

**Q** I inherited a nice sporterized Mauser 96 in 303/25 calibre - where can I buy ammo for this rifle? If I can find some I'll use the cartridges again by reloading with a hand reloader rather than buying a press and dies etc. Any information and thoughts appreciated.

**Mark Eastham, Vic.**

**A** The .303/25 has an important and interesting place in Australian firearms and ammunition history, coming at a time when ex-military rifles were plentiful after WWII and there are many SMLEs converted for this cartridge still in use. The round was one of several wildcats made by simply necking down a .303 British cartridge case and was commercialised by Riverbrand, Super, Myra, IMI and others using military brass, some of which carried the original Berdan primer.

You may be able to find some of the older factory-loaded ammunition at gun shows but be aware that any Berdan-primed ammo will be difficult to reload. As you mention you'll eventually be reloading ammunition, I suggest you buy new .303 British brass and form them to .303/25. Alternatively, I understand Bertram Bullet Co. in Victoria make cases which are already formed, that way you can start your load development from scratch with modern, readily-available components rather than trying to deal with ammunition of unknown origin from possibly unreliable sources.

Simplex Master forming and reloading dies are advertised by many retailers and my fellow Top Shots columnist Barry Wilmot in his book *Reloading for Rifles and Pistols* has some good loading suggestions using a range of bullet weights and powders.

**Rod Pascoe**



**Q** I have two guns and would like to know what they're worth and if they're collectable. One is a Winchester which has fired 20 bullets in 45 years - it's like new and I still have the bullets in their box. The other is a Model 94 30/30 made in New Haven, USA and from what I've read is likely one of about six million made. Any help appreciated.

**Jovica Djurdjevski, via email**

**A** Winchester released an Oliver F Winchester Commemorative rifle in 1980. Based on the 1894 action it had a 24" octagonal barrel and was chambered for the .38/55. Some 19,999 were made and at the time sold for around \$US520. Winchester also made commemorative packets of ammo

for this rifle and I'm guessing that's what you're referring to. A full packet in mint condition will fetch around \$120-\$150 at a cartridge collectors' auction. While commemoratives have never been as collectable as original 1894 rifles, they can be quite valuable depending on demand and I suggest the rifle is worth around \$2000-\$2500 if the right buyer can be found.

The Model 1894 New Haven 30/30 is the common rifle which has been around for years and the production number you quote sounds about right. In terms of value, prices range from around \$650 for a good one rising to perhaps twice that amount for an example in mint condition. I wouldn't consider the rifle collectable though some Winchester fans would undoubtedly have a different view.

**John Dunn**







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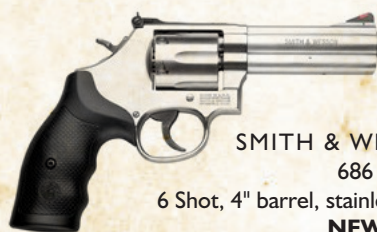
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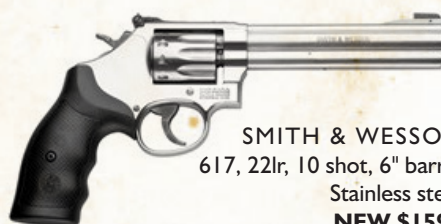
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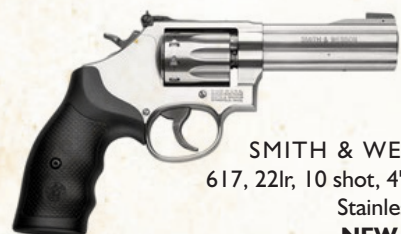
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# On your Marks!

## Get set to learn from the best

The SSAA has teamed up with not one but two superb marksmen or, to be precise, two Marks - Russell and Lauryn. As individuals, Russell and Lauryn Mark have decades of experience at shooting's highest level and as a duo, the husband and wife team are arguably the best shotgun coaches to be found anywhere. **Sam Talbot** reports.



The patterning board is a great tool for visualising chokes and checking what your shot looks like.

### The Marks

As the SSAA works to bring its 200,000+ members more and more value, we've teamed up with the Marks to bring you a series of highly educational and informative videos covering everything shotgun shooting and, since Russell and Lauryn are world-class coaches, the series will be of interest to beginners and experienced shot-gunners alike. Let's face it, most of us could stand to learn a thing or two and correct some of our bad habits, whether we're aware of them or not.

Russell and Lauryn are not only SSAA members but multiple Olympic and Commonwealth Games medallists and many of you will know Russell from his column in this magazine and as a Double

Trap gold medal winner at the 1996 Atlanta Olympics. He's also a Commonwealth Games champion and world-renowned professional coach. Lauryn was born in the US but since 2002 has competed for Australia, in the process becoming a three-time Commonwealth Games gold medallist. And while she coaches instead of competing these days, she keeps herself fit and was a contestant on popular TV show *Australian Ninja Warrior* in 2017. The pair were married in 2004 and have three children, those years of "blissful marriage" raising three youngsters adding a useful string to each of their coaching bows.

The SSAA has thousands of eager shotgun shooters in its ranks and if you're one of the many who have dabbled with

the idea of trying out this entertaining discipline, this series is the perfect way to get started. Learn from the best and enjoy many happy rounds of breaking clays at the range or hunting in the field.

### The series

For the first instalment in our six-part tutorial series, the Marks focus solely on one of the most important but overlooked factors in shotgun shooting - determining your dominant eye. They explain how to perform a simple test to identify quickly and accurately your dominate eye and, even if you turn out to be cross-dominant, they have strategies to help you. As Lauryn explains, 28 per cent of humans are right-handed



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## On your Marks!



Russell, Laetisha and Lauryn - three world class shooters.



Do you know the right stance for shotgun shooting?



yet left-eye dominant so this could be one of the most useful shooting tips you ever receive.

Next up, shooting stance is placed under the microscope. Russell explains how some aspects of shotgun coaching and technique have changed over the years and why you may have inadvertently picked up the wrong stance. The lesson also includes props which clearly explain the correct stance for both left and right-handed shooters.

They say tradesmen are only as good as their tools and choosing the right shotgun is key to your performance, so in the third episode you'll learn how to identify which shotgun will be best suited to you, given your body shape and what you'll be using it for. Russell and Lauryn offer valuable tips on what to look for when making a purchase including what gauge to buy, barrel length, stock dimensions and accessories which may be useful to you and your shotgun. They also cover shooting positions, dry-firing drills to ensure consistency and how to identify incorrect gun-mount, so you'll come away confident of walking into a firearms store and leaving with the right shotgun.

Once your stance and mount have been perfected it's time to concentrate on making your shotgun impact where you want it to, which is exactly what the next episode covers in depth. Here, the Marks explain how to correctly establish point of aim for your gun and how to make basic alterations to change the point of impact, and they'll also address some common faults you might encounter when setting up your shotgun for the first time.

Chokes are a constant source of confusion for many shooters so the Marks are just the experts you need to guide you through what choke you should be using, what its capabilities are and how to maintain it. In this dedicated episode they compare the five main choke sizes and give a practical

demonstration of the differences they make by using a patterning board as, by shooting a patterning board, you can clearly see the diameter of the shot pattern of each choke. They also explain what distance each choke is best suited to and cover installation, service and identify potentially damaging interchangeable chokes. By the end of this episode we're confident you'll have a clear understanding of chokes.

To round off the series, Russell and Lauryn offer a comprehensive explanation on the concept of lead (the technique, not the load). Not only does this episode employ a ShotKam so you can see the tip of both barrel and target, it also features Australia's three-time Commonwealth Games gold medallist Laetisha Scanlan, so you'll see the precise lead and techniques used by not two, but three world-class shotgunners, the lesson ending with recommendations on what type of lead to use for different applications, whether in a clay target or hunting situation. The trio also offer a concise explanation of swing-through lead, sustained lead, pull-away lead, diminishing lead and spot shooting.

The entire series is a must-watch for anyone looking to get into shotgun shooting, brush-up on their technique or just break more clays and we're confident you'll both enjoy it and learn from it. We plan to make more educational videos covering a range of topics to make sure you're on target so let us know what you think of the series and any areas you'd like more advice on. A new episode will be released fortnightly and the first one is out now - check it out on our Facebook page or YouTube Channel, SSAA TV.

### Russell Mark

Most of Australia's shooting community will be familiar with Russell Mark, not just from his regular column in this magazine but from his success on the world stage as an elite shotgun shooter. In total he competed

in six Olympic Games, just one behind equestrian Andrew Hoy as Australia's most prolific Olympian. Arguably his greatest achievement is the Double Trap gold medal at the 1996 Olympics in Atlanta, an achievement he followed up with silver at the 2000 Games in a nail-biting contest. Russell also represented his country at the 1988, 1992, 2008 and 2012 Olympics.

While competing in the Commonwealth Games, Russell won Double Trap gold at Melbourne in 2006 and bronze at Delhi in 2010. In 2009 he was named by the International Shooting Sports Federation (ISSF) as the greatest-ever Double Trap competitor and one of the top 10 greatest marksmen of all time, something he capped off by being inducted into the Sport Australia Hall of Fame. Russell retired competitively in 2014 and has been a coach for even longer, listing among his current mentees Australian Olympic Trap stars James Willett and Laetisha Scanlan.

### Lauryn Mark

Born in California, Lauryn established her shooting credentials as a teenager in 1999 when she became the youngest-ever winner of the US Open Women's Skeet Championship. Soon after that she took Australian citizenship and has been representing the country ever since.

Having competed at multiple Olympic Games, it's no surprise she has won eight Australian Women's Skeet titles as well as a World Cup silver medal. She's also a three-time Commonwealth Games gold medallist, including two at the 2002 Manchester Games in Individual Skeet and Individual Pairs. Lauryn's Skeet talents offer an intriguing and slightly different perspective to Russell's Trap skills, making them even more remarkable and that much more accomplished as coaches. ●

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# Junior shooters learning from legends



Lachlan tries shotgun shooting for the first time.

Olympic gold medallist Russell Mark and wife Lauryn, a triple-Commonwealth Games gold medallist, took some lucky junior shooters under their wing as part of a SSAA video series to offer hands-on experience from champions of the sport. **Nadia Isa** was there for *Australian Shooter*.

Callum Linton began shooting a couple of years ago when his dad encouraged him to “give it a go” at his local club, the 16-year-old taking to it instantly and has been shooting ever since. Callum’s preferred discipline is Field Rifle 3-Positional which he shoots at SSAA Victoria’s Eagle Park Range with the youth shooting club where he enjoys the unique nature of the sport.

“It’s a sport none of my friends do, so it’s great to do something different from our group,” said Callum. The youngster is also continually striving for improvement and appreciates the competitive aspects of shooting. “Competing against the other juniors in the club means I’m always trying to be the best.”

Olympic and Commonwealth greats Russell and Lauryn taught Callum how to use a shotgun, a new experience which he thoroughly enjoyed. “I really appreciated the chance to meet Russel and Lauryn Mark and learn from world class medal winners. Being part of the filming was a fantastic experience and I enjoyed every minute of it,” said Callum.

“It was great fun as that was the first time I’d fired a shotgun which was something I’d wanted to do for a while. I was taught to shoot really well so I got the most out of the

experience and have asked dad to take me shotgun shooting again. It was good to learn the different styles of shooting and gain experience and knowledge in that field.”

While Callum may not have aspirations to follow in the Marks’ footsteps, fellow Eagle Park junior Lachlan Walton believes success in shooting is all about motivation. “I think with the right motivation and discipline anyone can aspire to be an Olympic shooter. That’s the great thing about this sport - it’s for everyone,” he said.

The 16-year-old took up the sport three years ago after becoming hooked during a range visit with his Scout leader the previous year and now shoots .22 Field Rifle and 3-Position Metallic Silhouette. Like Callum, Lachlan enjoys monitoring his development and being able to measure how his technique is improving, as well as being outdoors in a hands-on environment.

When asked what it was like to learn from an Olympic gold medallist, Lachlan said both Russell and Lauryn were really down-to-earth and easy to talk to. “It was a great experience and one which will help me in the years ahead,” he said. “I was a lot worse at clay target shooting than I expected - it was challenging not to think about what I was shooting and just trust my reflexes. As a rifle shooter our target is stationery, which

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## Junior shooters learning from legends

is obviously a lot different to moving targets. Russell and Lauryn taught me to use both eyes when using a shotgun and identified which is my dominant eye."

### Popular with parents

Callum's dad Ian Linton said shooting is a great sport for his son's discipline. "Being a teenager he often doesn't apply enough focus and attention to detail with many activities, but with shooting he's able to use both and achieve some great results," said Ian. "It also develops hand-eye coordination and teaches him respect for firearms."

Ian was delighted Callum was learning from the best. "It was a terrific experience for him and we appreciated the chance to soak up so much from Russell and Lauryn who were great teachers - it was a pleasure to be part of this. Callum gained an appreciation of the various disciplines and learned just how different shotgun shooting is to rifle shooting. It expanded his enjoyment of the sport in general and he's keen to use shotguns again."

And Lachlan's mum Belinda agreed shooting is an ideal sport for teenagers. "It's great fun for them at that age," she said. "Lachlan shoots with YTS at Eagle Park but has also been across to Springvale for state and national competitions where the



Callum is all smiles after his coaching session with Russell and Lauryn.

interaction with other youngsters is invaluable," she said. "For him it's motivating and provides a sense of calm and mindfulness, as shooting clears his head of everything else."

Belinda was also appreciative of her son's time with two greats of the sport. "Lachlan loved shooting with Russell and Lauryn and it also broke up months of COVID restrictions here. It was a tough year with no state or national competitions and YTS closed for so long," she said. "It was nice for him to get out and have a shot, share his knowledge of rifle shooting with Russell and Lauryn and try a different style of shooting."

Now the two youngsters aim to continue

advancing in their chosen sport. "Keep improving with my .22, move up to a .308 at some stage in the future and learn how to hunt and prepare my own meat, that's the plan," said Lachlan. "I'm so grateful I had the chance to be in the video - I really enjoyed the day."

And for Callum: "To improve my accuracy and learn to shoot at longer distances then move to higher calibre rifles to extend the distance further." ●

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Action opened showing robust ejectors and significant bite across the bottom of the monobloc that locks the gun via a sliding wedge in the receiver.

# Work of art by an Italian master

John McDougall

If I consider the contribution of Italian gunmakers to the development and performance of shotguns in the various clay target disciplines and how many contented hunters are using Italian-made field guns, my head begins to spin. The small valley in Brescia, home to many of the world's most famous shotgun makers, is something to behold. Among the most popular names is Rizzini and there are several brothers and cousins involved in making shotguns from the most basic to the exquisite, Battista Rizzini being one such producer in Val Trompia who is highly regarded for guns representing exceptional value for money.

Each of the Rizzini shotguns I've seen during 35 years as a reviewer has great features, their locking mechanism based on what has become known as the 'four locks' system. This relates to four lumps which protrude from the bottom of the monobloc, locking the gun firmly into position in the receiver floor and against the receiver standing face. It's an extremely strong

option used by various manufacturers worldwide, a tried and tested design which has coupled well with the bifurcated jointing also used by Battista.

But what elevates his shotguns far beyond the locking and jointing mechanism is the sensational woodwork and magnificent engravings on the sideplates, completed by noted craftsman Caesar Giovanelli. Inscriptions on the S1000 Sporter on review are works of art, the right-hand side featuring custom ring-necked pheasants in flight, the left showing Pacific black ducks. It's an Australian-centric gun thanks to a request by importer Steve Sayers of SJS Imports.

Although a boxlock gun using an inertia operated trigger mechanism but with extended sideplates on either side of the receiver, I can attest the engraving is excellent and would make any owner proud. At around \$6290 with grade 3.5 Turkish walnut stock and five-year warranty, these shotguns represent unparalleled value.

## Barrels

These are finished impeccably in matte blue, the ventilated and tapered top ribs matching perfectly while the top rib has an anti-glare treatment. Silver soldered together for maximum strength the barrels are of Battista's XL configuration, being over-bored to 18.65mm (0.735"). This facilitates velocity and when coupled with the 100mm/4" forcing cones it's clear why targets were punished during testing.

To Battista's credit the 90mm external choke tubes, paired to the XL bores, are regulated precisely with 10-thousandths of an inch - or 10 points of choke - for every constriction, such is their detail to manufacture and assembly and it's a long time since I reviewed a shotgun with such precise choke regulation. To complement the interchangeable choke tube system the external collars are also colour coded, the S1000 Sporter an engineering masterpiece from its magnificent engraving to choke regulation, barrel construction and metal-to-metal fit.

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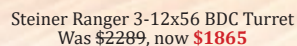
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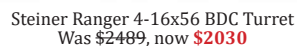
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## Work of art by an Italian master

The S1000 Sporter with its classic lines, excellent stock wood and highly engraved sideplates

At the muzzle a white trap-style front sight is fitted but I was amazed to find that given such attention to detail, there's no mid sight. This can always be done after-market and I'm sure the distributor could arrange it at reasonable cost, as his gunsmith works on-site at the office and showroom in Port Melbourne. The gun is chambered for 76mm/3" Magnum cartridges, its 100mm/4" forcing cones well appreciated to avoid crushing/pellet deformation as the shot load transitions from chamber to barrel, thereby optimising patterns through minimal flyers.

The ejectors are robust and timed to perfection and it seems nothing is left to chance with all fine adjustments made before the gun leaves the factory. Proofing is to HP steel shot level, being 1320 Bar, making the gun well suited to waterfowling with HP hyper-velocity steel shot hunting loads using no tighter than half choke. The versatility of this gun is limited only by the shooter's expectations, whether targeting clays or hunting in the field.

### Receiver

With sideplates fitted to enhance the engraving area, this boxlock is stunning in appearance with its game scenes and overall look, the engraving alone well worth the price of a gun sporting artwork which can usually only be found on shotguns costing several times this amount. It must be said though that sideplates don't equate to a sidelock gun as these have their firing mechanisms attached to the sideplates, whereas the Sporter is a boxlock with the firing mechanism housed behind the standing breech and enclosed by the stock.

Design of the top lever is not only engraved but also pleasantly pierced, operation smooth and positive, opening with a minimum of effort and snapping into position as it's released to close. It's correctly adjusted so as to have the top lever sitting right of centre to allow for eventual wear, obviously after many years of service. The barrel selector-cum-safety catch is positioned for positive operation, attention to detail by colouring the selector 'dots' red

being typical of the lengths Battista has gone to in the design.

Shape of the triggerguard is generous for those who wear thin shooting gloves and while not having an adjustable triggerfoot, layout and rake is for the design of the pistol grip with the trigger positioned within comfortable reach. Trigger releases are 3lb 12oz for the under barrel and 4lb for the over, the feel of the trigger releases firm with each barrel, the mark of a great competition gun.

### Stock and fore-end

These are made from grade 3.5 Turkish walnut and oil finished. The stock is standard, being without an adjustable comb piece which will cost an additional \$450 upon order. A thin English-style recoil pad is fitted to tame flinch and enable good mount by preventing the gun from slipping from your shoulder on firing.

If using hyper-velocity HP steel shot loads travelling around 1700fps I'd look at changing it, but for the purpose of shooting

Stunning game scenes either side of the S1000 Sporter are sensational.





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## Work of art by an Italian master



Choke tubes fitted to the muzzle with others in the container used to house them.

28-gram sporting clays loads it was more than sufficient as the gun weighs in excess of 8lb which also soaks up recoil. Character and grain in the grade 3.5 walnut is top-notch with stock and fore-end matching well.

Chequering about the pistol grip and fore-end is completed at around 18-20 lines per inch and makes for a firm and positive grip, the shape of the fore-end being standard with release button at the front instead of a traditional lever beneath. I found the release design used by Battista to be far easier to operate than a standard lever as on many other shotguns.

### Over the traps

Testing the S1000 Sporter was a pleasure I won't forget in a hurry, targets destroyed at all distances with closer ones turned to smoke and busted targets resembling ink spots in the sky, testimony to the precision of the barrel/choke combination. I've

long abandoned testing guns using pattern sheets and prefer to assess chokes and their performance in the field. Using a variety of shells - Winchester, Armusa and Bronze Wing - mattered little as target after target was destroyed, the attention to choke regulation coupled with the lengthened forcing cones and over-bored barrels combining to punish targets.

In conclusion I found the S1000 Sporter exceeded expectations in every aspect, it's not only a great looker at an affordable price but a sensational performer. With a solid ABS moulded and fitted case along with all chokes, choke spanner, gun socks, snap caps, stock removal spanner and five-year warranty, the gun represents excellent value at just more than \$6000. For those seeking a great-looking gun, go no further, and for those in search of a full-on competition gun for clay target disciplines, the S1000 Sporter will satisfy the most fastidious of buyers. ●

The Rizzini S1000 Sporter is supplied in a lockable moulded ABS case.



Design of the barrel selector-cum-safety catch allows the top lever to be operated without interference from the catch.

## SPECIFICATIONS

**Model:** Battista Rizzini S1000 Sporter

**Maker:** Battista Rizzini, Val Trompia, Italy

**Distributor:** SJS Trading, Melbourne  
www.sjstradingco.com.au

**Overall length:** 1230mm/48½"

**Overall weight:** 3.85kg/8lb 9oz

**Barrel length:** 760mm/30"

**Barrel weight:** 1.55kg/3lb 6oz

**Bore and chamber:** 12-gauge. B. Rizzini XL Bore: 18.65mm/0.735" both barrels. Steel shot HP Proof. 100mm/4" extended forcing cones.

**Chokes:** 90mm XL Bore chokes. Cylinder: 0.735" (dark blue code), Improved Cylinder: 0.725" (gold coded), Modified: 0.715" (pale blue code), Improved Modified: 0.705" (black code), Full: 0.695" (silver code). Each subsequent choke has a difference of 0.010" or 10 'points of choke'

**Trigger pulls:** Under: 60oz/3lb 12 oz, Over: 64oz/4lb

**Stock and fore-end:** Standard fore-end, non-adjustable stock, slim solid rubber recoil pad fitted. Length of pull: 375mm/14½", drop at comb: 37mm/1½", drop at heel: 57mm/2¼". Left and right-handed stocks available. Adjustable comb piece will cost an additional \$450

**Warranty:** Five years





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# The Vortex

## New Zealand Mountain Challenge

Goran Pehar

### Prologue

This world-class long-range shooting competition in New Zealand was conceived some years ago and has since cemented its status as a classic event, so let's go back to its origins and how I fitted into the equation. It was a windy afternoon on the hill, with sunny skies and fast-moving clouds as the sun settled over Cardrona Valley - the range was ready and targets set.

The road from Wanaka winds through the valley and I was lying in the tussock with my Fury 10x42 Laser Rangefinder binoculars measuring distance and evaluating multiple winds, the most dominant blast racing across the mountain ridge, another one bending grass like guitar strings towards the valley. Then there was a breeze upsetting the target view and constantly changing the mirage wall near the target frame. It takes an effort to notice the wind mix but it's much harder to work out their combined effect and transform that to a numeric value on the scope turrets.

The distance to Target 5 is 1006m (1100 yards) according to LRF binoculars at a 5-degree angle. I quickly checked ballistics for vertical dial and hesitant windage

dial and took a firm grip on the Accuracy International 338LM loaded with a Berger 300gr OTM tactical projectile.

My aim was careful and steady as the powerful projectile left the barrel, almost instantly hitting the edge of the target violently and the sweet second of noisy conformation echoed through the valley. I love that sound and it was a good way to end the day of preparation - I'd been waiting a year for the Mountain Challenge to start.

### How things evolved

Over the years I'd tried many times to create an 'open space' Long-Range competition with real challenges and away from well-organised shooting ranges - something real, unpredictable but as rewarding as LR itself. There are many similar competitions in the US like Vortex Extreme and a multitude of others whose popularity was rapidly growing but down here we had none.

Sadly, not too many people were sharing the same idea and organisation in Australia proved impossible. But I love it so much I wasn't going to give up and a few years later during my New Zealand travels, I was lucky to meet keen and knowledgeable

shooter Lee Jefferson from Invercargill, who had similar feelings.

So back in 2014 a few LR enthusiasts came together to create an attractive and demanding target competition in an open environment. Lee started working on targets and competition rules, avid shooter and Cardrona Valley farm owner Quentin Ross provided a home for the competition while I organised money, prizes, marketing and advertising support, also calling on the help of numerous friends from our LR shooters' network.

Once a venue was found, targets allocated on the hillside, rules formed and safety plan completed, the initial meeting was set in motion for 28 teams. Organisation and safety had to be impeccable for competitors to enjoy a great day out on the mountain. We also had valuable assistance from US-based LR shooter and firearms instructor Mike Perkins who travelled to NZ and organised courses to improve shooters' knowledge, Mike's expertise and hands-on approach to LR courses helping many shooters expand their skills and gain confidence. From then on, every year he and his team partner Dennis have made



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A hardy bunch of shooters.



A glorious view from the heights.

their way to Wanaka to compete and spend time with us. That first year was amazing and thereafter most teams have returned annually, with new ones quickly filling any gaps and ensuring full attendance. It's also a family affair with several groups attending year after year, like the father and daughter Hudson team, Jamie Hudson a future champion who started shooting at the age of 14 with dad Greg, a gunsmith and owner of Custom Guns. The Jefferson, Ross, Wilson, Hardy and Hughes families are also regular attendants and that's how the brotherhood of LR shooters was formed.

Avalon Station became home to the unique and popular competition which now sells out in 30 minutes after the invitation message is posted on Facebook. Demand is high and teams come from far and wide with more and more Australians competing, and with local support also on the rise, plans are being made to increase capacity.

The competition became truly international in its second year with teams arriving from the US, Canada, Australia, Mexico, New Caledonia and Indonesia. The best overall individual shooter wins the annual Top Gun award while Vortex Challenge and PRS are individual and team categories. Shooters must be able to maintain 1 MOA accuracy to hit 600mm and 400mm



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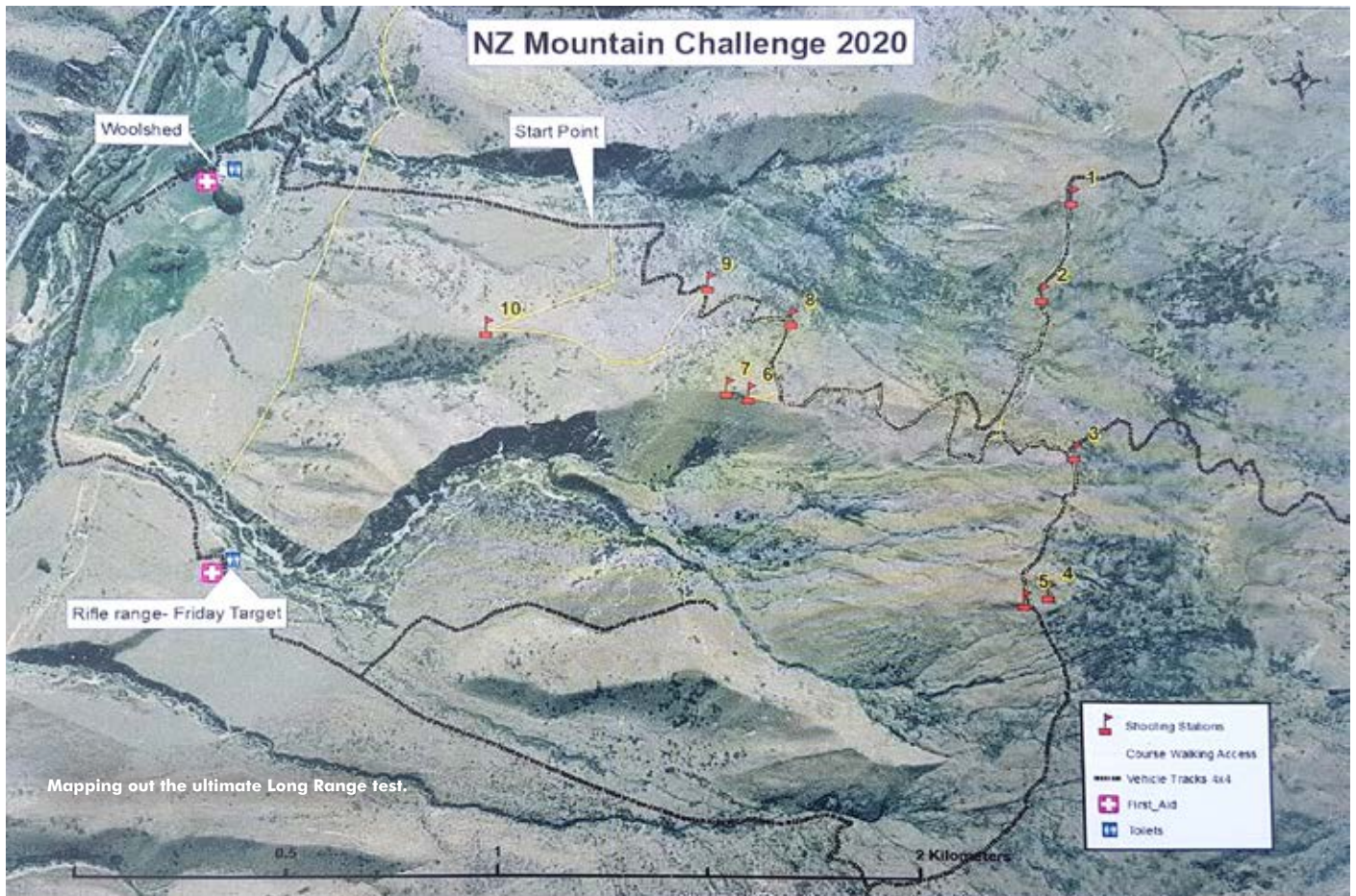
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## The Vortex New Zealand Mountain Challenge



targets at 200-1100 yards from various positions, any calibre between .223R to .338L welcomed. Many shooters fit suppressors to reduce noise and the overall equipment has been significantly improved over the years, from standard rifles to custom-made world-class firearms and optics.

Equipment and shooters are truly challenged in this environment having endured snow, wind, fog, sunshine, rain and hail over the years, but competitors are always determined to soldier on. The schedule is a three-day event - on Friday there's a 1000-yard competition (Jefferson Cup), Saturday is the Vortex Mountain Challenge with two-shooter teams in LR competition on the mountain and Sunday reserved for the popular PRS discipline. There are almost 300 shooter positions for the whole event with each entrant firing between 60 and 80 rounds a day, competitors happy to share their knowledge and experience with loyal bands of spectators following them across the hills.

Organisers enjoy superb local support from verified range officers who help with safety and shooting management as well as a logistics team who assist with all on-field



**On manoeuvres amid testing terrain.**

activities. As always, the winner is the one who reads the wind best and adapts quicker to conditions. Base camp at the woolshed is in a valley at just over 400m above sea level but hilltops are around 1340m so

shooting conditions can be unpredictable, ever-changing and tricky which all adds to the appeal.

Team skills have improved greatly over the years and a rich prize pool is ample reward for the top shooters. When the action is over we celebrate long-range shooting with lamb on the spit, a variety of other food, a few beers, product presentations and prizegiving. New Zealand has several similar events which all contribute substantially to the development of LR skills and the number of gatherings is growing rapidly.

The NZ Mountain Challenge is now a well-recognised shooting event attracting local and international shooters, boasting an impressive safety record and bright future thanks to its huge following and stimulating environment. For the latest instalment, we were honoured to welcome multiple world record holder Jerry Miculek to participate in PRS and give prizes after the LF competition. Jerry has fallen in love with LR and plans to come back again to compete. If you're a keen LR or PRS shooter who'd like to know more, find us on Facebook or email [gpehar@extravision.com.au](mailto:gpehar@extravision.com.au) ●



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# The deer we take for granted

Sam Garro

**D**eer in general have never been so plentiful, so much so that sightings along country back-roads traversing or bordering state forests or reserves, particularly at night or early morning, have become a regular occurrence for locals and passing motorists. Reports by property owners of deer feeding among their cattle or livestock or invading crops including orchards, vineyards, market gardens and at times even farmers' flower beds, attest to their presence in numbers.

All of which means good news for hunters but a confronting dilemma for farmers and property owners who struggle to deal with these invasive animals or at least find a balance. This is also despite constant hunting pressure from deer stalkers and organised culling programs by Government authorities. Last summer's devastating bushfires hit the deer hard in affected areas but overall their numbers remain strong.

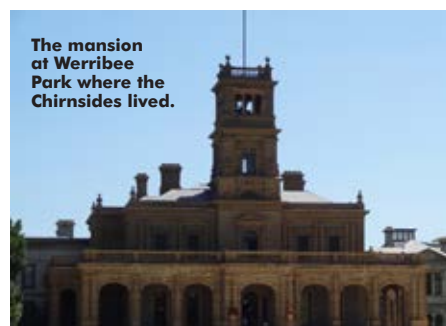
But the deer scene wasn't always so favourable, in fact quite the opposite. That's why it's appropriate at times to reflect on history in order to appreciate what we have today, not only for existing sporting shooters and hunters, but importantly for

the upcoming generation of hunters who may have little or no concept of how deer and other actively hunted game was established in Australia.

## In the beginning

The introduction of deer to Australia had humble beginnings at great effort and cost by an initial few. Primarily from the 1840s onwards pioneering gentry, mostly pastoralists with the financial means and influence, started to import deer from England along with other species of game animals and birds such as rabbit, hare, fox and pheasant.

Apart from providing comfort as a sentimental reminder of the motherland and source of food while livestock and crops



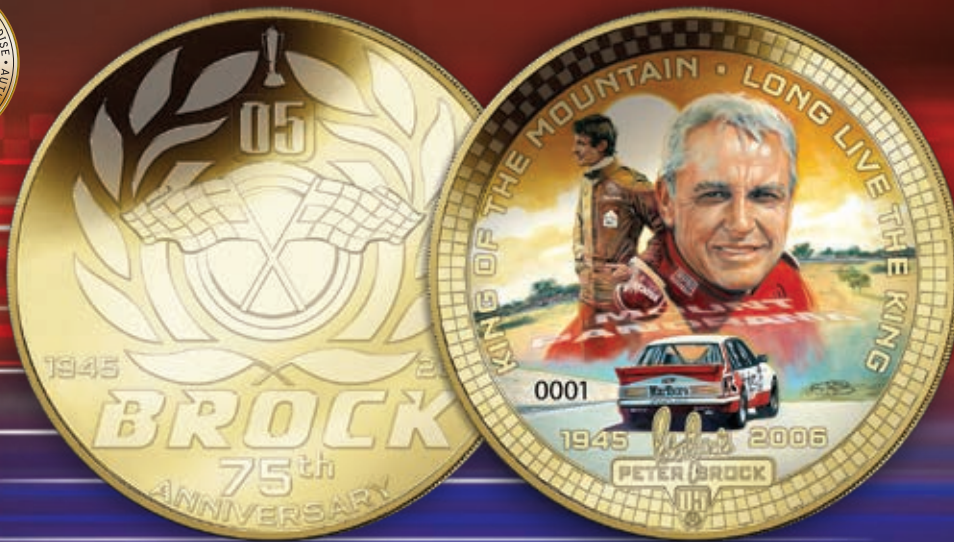
The mansion at Werribee Park where the Chirnsides lived.



Red deer stag shoulder mount at Werribee Park.



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## The deer we take for granted

took hold, it enabled the continuance of a hunting tradition and way of life. Especially so when considering how foreboding, confronting and challenging life must have been in a land devoid of familiar game animals save for a few strange-looking marsupials.

### Contributors

Thomas Chirnside, a successful pastoralist who amassed vast tracts of land in Wyndham, south west of Melbourne and parts of Victoria, is credited with importing the first red deer (*Cervus elaphus*) in 1860. Maintained on his property at Werribee Park, the deer flourished and transformed into a fine herd. In due course, deer from the herd were placed with other private landholders and the Acclimatisation Society (AS), a voluntary organisation which encouraged the introduction of non-native animal species, fish and plants with similar views to improving the aesthetics and way of life in a foreign land.

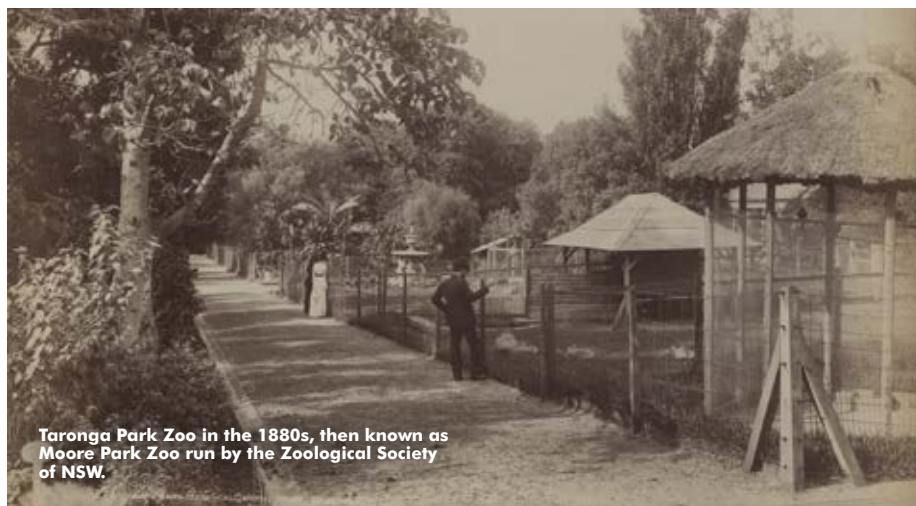
There were other proactive individuals in support of the cause including John Harris, surgeon to the NSW Corps known to have imported the first chital deer from India in 1800, and William Lyall with the significant release of sambar deer on his property at Harewood Park, Tooradin, Victoria for acclimatisation and future release.

### Acclimatisation Society

With the emphasis initially on introducing game species from England, in particular the majestic red deer considered the noblest of the species for hunting purposes, the AS which already existed in England, France and other parts of the world founded itself here in 1857. It changed its name to the Acclimatisation Society



A magnificent red stag mount takes centre stage at the Red Stag Restaurant, Eurobin.



Taronga Park Zoo in the 1880s, then known as Moore Park Zoo run by the Zoological Society of NSW.

of Victoria (ASV) in 1871 and again to the Royal Zoological and Administration Society of Victoria in 1910. Respective acclimatisation societies were formed in Queensland (1865), NSW (1861), Western Australia (1895), South Australia (1878) and Tasmania (1862) with the Melbourne and Sydney ones being most active, and were so named as the imported species removed from their natural habitat or place of origin had to acclimatise and adapt to a different or newly-introduced environment.

The ultimate aim was to eventually release the deer in chosen wilderness areas which best held their survival prospects and eventually open them up to hunting under regulated conditions, realisation of the havoc deer were to later wreak being far from everyone's minds at the time.

### How deer were viewed

Populating the land with such exotic animals as deer was viewed as a worthwhile cause with attaching social and economic benefits. As such, acclimatisation societies received government grants and land to further their cause and together with private subscribers were able to operate accordingly and pursue their goals. Royal Melbourne Zoo at Royal Park, Melbourne, the Taronga Park Zoo in Sydney and others visited today are derived from these early established societies.

### Introduced species

A wide variety of deer species were introduced by the acclimatisation movement. Through British colonial ties with Malaysia, Sri Lanka and India, sambar, chital, sika, Javan rusa and hog deer were shipped across around the 1850-60s, red and fallow deer from England and other species such as musk, Manila, Japanese sika, roe, mule and wapiti from other parts also introduced.



A plaque commemorating the release of sambar deer in 1868 by Victorian Acclimatisation Society on William Lyall's Harewood property.

### Releases in Victoria

Unintentional releases occurred when deer escaped from poorly-built enclosures as well as intentionally by property owners who grew tired of caring for the animals when they had their own livestock to attend and feed was proving costly.

In the years following 1870, numerous deer releases were officially made to achieve widespread distribution from as far west as Penola SA, east to Thredbo NSW, north to Jerilderie NSW and south east to Wilson's Promontory. Red, sambar and fallow deer in particular gradually sprawled into the Otway Ranges, the Grampians and Victorian High Country, the Great Dividing Range and north across the NSW border into the Snowy Mountains and various other parts. Hog deer mainly established themselves in the coastal tea-tree swamp areas of Gippsland and adjoining islands.

### Interstate

Similar releases took place interstate, significant ones including red deer in



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## The deer we take for granted

late 1800 in the Brisbane Ranges which potentially holds the largest concentration in Australia today. Tasmania's flourishing fallow herds were widely released in the 1850s, the beautiful chital introduced on Maryvale Station, Charters Towers, Queensland in 1886 having since spread throughout the district and since then red, sambar and fallow have established themselves in SA, NSW and Queensland.

Yet not all deer released into the wild were successful, some species unable to adapt due to harsh conditions or inadequate food supply and, in some cases, predation by dingoes or wild dogs. In one such release of 54 fallow, three sambar and five barasingha or swamp deer in 1912 in the Coburg Peninsular, NT only the hardy and bulky sambar survived.

### Early hunting

Initially, deer hunting on horseback with pack-hounds became a carry-on tradition from England, any stalking with a rifle done by the privileged landholder and invited guests where a sizable herd was held and the occasional animal cull was in order. The earliest account of a pack-hounds hunt taking place was in 1877 by the Chirnsides at Deer Park, an outer western suburb of Melbourne not far from where I live, hence my added interest in the subject.

To better appreciate the hunting scene and proceedings, a stag was carted in a wagon from the Chirnside property at Werribee



Group of fallow bucks on private property near the Grampians.

Park to the location in Deer Park, released to distance itself several kilometres before being pursued on horseback by suitably attired riders with hounds baying out in front. Once cornered or captured the stag was returned unharmed to its original enclosure for future similar events. Today's deer hunting with pack-hounds carries similar anticipation and excitement but is performed on foot in a totally free-range environment.

### Evolving scene

Declared seasons and durations were varied and subject to regulatory changes, climatic effects on the animals, their numbers in locations, a satisfactory mix of stags, hinds and fawns and other contributing factors. Enforcing hunting rules was often difficult due to the expansive areas involved and limited resources to control them and, over time, hunting pressure at various levels pushed the deer into more remote and inaccessible areas.

### For the future

So while we may take the deer, a pinnacle trophy animal for granted, whether hunted for meat, antlers or both, we have much to be grateful for in terms of its origins, efforts made by individuals and groups at the time and the continuing devoted work by various hunting organisations in the sustainability of deer species and in the interest and future of the sport.

If we play our part, hopefully the various herds will remain in sufficient and controllable numbers to the satisfaction of farmers and property owners, government bodies and hunters. While information on the subject can be found online and in various books, Arthur Bentley's *An Introduction to The Deer of Australia* is a truly interesting and informative read and highly recommended if you can land a copy. ●

Sam with mature red stag in the Brisbane Ranges.





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# Enduring legacy of the Browning Hi-Power

Dick Eussen

**T**he 9mm Browning Hi-Power (HP) is arguably John Moses Browning's finest design, a legendary pistol which has proved itself around the globe in the hands of law enforcement agencies, the military, special forces and others. Introduced in 1935, it was ahead of its time and Browning was still working on it when he died. His endeavours were continued by Dieudonne Saive, a Belgian firearms designer employed by FN Herstal and while it's no longer manufactured by FN, licensed hybrid copies remain available.

The original HP shared some of Browning's other famous pistol features from the 1911A1 but with many improvements and refinements. These included a twin-row double-stack magazine which held 13 rounds of 9mm ammunition compared to the 1911A1's seven rounds, hence the reason it was called Hi-Power. Oddly, the HP found little commercial success but was widely used by military ranks and both Allied and Axis forces during World

War Two and, when Belgium surrendered to Germany, the planners of the HP and others had fled across the Atlantic to Canada where it was made for British and Nationalist Chinese forces.

However the FN factory and its tools were taken intact, the Germans wasting no time in using them to make firearms including the 9mm HP which was issued to specialist parachute units and the Waffen SS, as the pistol was easier to produce and more reliable in battle than the Luger.

It was also the handgun of choice for specialised units like the British and Australian SAS. In fact, more than 50 armies and 93 countries armed themselves with the HP and many continue to use them. This didn't go unnoticed by police forces and many adopted it after the war, including the FBI, and it's estimated more than 50 million Browning Hi-Powers have been produced. Even today in this modern age of polymer pistols the all-steel HP stands out, even though it and the Glock 17

are about the same on performance when it comes to high capacity firepower and handling, so little has changed apart from the fact there are lots of accessories available for the Glock - and it recoils more due to its lighter weight.

But the original HP with its double-stack magazine led the charge to new designs and a narrow grip which neatly fits most hand sizes. Both seasoned and new shooters love the feel of an all-steel HP, the fine craftsmanship and handling when they pull the slide to battery and heft it to the target - and all appreciate its pointability. The trigger, while breaking clean and crisp, may not be to everyone's liking but can be adjusted to a lighter pull by a competent pistol-smith.

Genuine original 9mm Hi-Powers are in high demand by collectors and shooters who love cold blue steel. When first introduced in the early 20th century it was ahead of its time as it offered the perfect combination of handling, size and firepower.



The rear sight is fully adjustable on all later models.



The safety lever is on both sides of the slide and can be operated with either hand, though the magazine release button is on the right.

### The legend

The Browning Hi-Power is a single-action, self-loading, locked-breech short recoil pistol chambered in the venerable 9mm Luger. When the slide is pulled back, the trigger is cocked and ready to fire and if there's a round in the chamber it can also be cocked manually by pulling the trigger spur back, unlike a double action which cocks and fires when the trigger is pulled. The single action won't fire unless the trigger is cocked.

The HP has a 4.5" barrel fitted with low-profile rear sight and blade front sight. As time went by it became available in several models and improvements, the standard model having a gloss blued steel receiver, frame and trigger. Originals had chequered timber grips and it's rare nowadays to find one, let alone one in good condition, but newer designs came in silver chrome, black epoxy, digital camouflage finish, composite or wrap-around Pachmayr rubber grips, adjustable rear sight and ambidextrous

thumb safety. Desired models do turn up at dealers from time to time.

Take-down for cleaning and field stripping is simple and due to the few parts involved, loss of parts in battle conditions is not high, unlike the more complicated Luger as the Germans discovered. Even though it has all solid steel construction, the HP is still a lightweight affair with manageable light recoil when fired in rapid mode.

Its balance is unchallenged and while it was eventually replaced, some say outclassed, by polymer pistols from Beretta, Glock, SIG Sauer, Smith & Wesson and others which offered more improvements such as double-action function, accessory rails for light, reflex sights and more, it's safe to say the John Browning Hi-Power pistol hardly changed until its end. If you come across one as I did, adding a legendary fully functional HP pistol to your collection is to have a great historical shooting asset in the gun safe. ●



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### Original Specifications

**Calibre:** 9mm  
**Action:** Single-action  
**Capacity:** 13 rounds  
 (10 in Australia)  
**Barrel length:** 122mm  
**Weight:** 0.907kg





Remington .300 Win Mag with grizzly muzzle brake which tamed recoil to .243 levels.

# THE CURSE

- understanding the causes and effects that is recoil

Brad Allen

**T**here are many hunters and shooters who regularly and effectively use firearms which produce copious amounts of recoil but you won't find many who actually 'enjoy' the associated pain that goes with it. Lighter hunting rifles, larger calibres with heavier bullets and more velocity all equate to heftier recoil but to appreciate why firearms behave the way they do, we need to understand the science behind it, specifically Newton's Third Law of Physics which states: "For every action there is an equal and opposite reaction."

We know firearms regardless of calibre produce recoil to some degree when fired, due to action-reaction forces. Acceleration of expanding gases from ignited gunpowder push forward on the projectile, forcing it into the barrel, at the same time the projectile thrusts backwards against the rifle that's holding and guiding it. Acceleration of the rifle (rearward 'recoil') is less than the acceleration/velocity of the projectile (forward) due to its greater mass, but the projectile has much superior acceleration/

velocity due to its smaller mass.

Yet the force generated on the rifle is equal to the force engendered on the projectile because acceleration/velocity and mass (weight of rifle and projectile) are inversely proportionate. Clear as mud? The main factors with regard to Newton's Third Law we need to consider, which can be readily attributed to firearm recoil, are: (1) Weight of the firearm. (2) Weight of the projectile. (3) Acceleration/velocity at which the projectile leaves the barrel. With any given firearm, to change any of those three variables will impact on and change the level of recoil produced.

## All things being equal

A heavier gun equals less recoil and a lighter gun means more. A heavier bullet equals more recoil but a lighter one equals less. Faster muzzle velocity/acceleration of a bullet brings more recoil and slower acceleration/velocity has less. Yet the amount of recoil felt or perceived by the shooter can and does rely on many other aspects, one of

the main ones being the shape and style of your rifle's stock.

Many moons ago at the tender age of 17 (legal age to own a firearm in Queensland at the time) I bought my first 'big rifle'. By today's standards not that big but my Ruger M77 7mm Rem Mag was a hefty cartridge, when you consider a .243 or .308 were as large as most deer hunters used then. Yet that rifle was quite accurate and not uncomfortable to shoot off the bench, even though it generated about 24ft-lb of free recoil energy firing a 150gr bullet at near 3200fps.

After my success with this 'big rifle' I talked my mate Jack into buying a .270 Win. With most firearms in limited supply in regional gunshops, he settled for a spanking new Parker Hale .270 with rollover Monte Carlo comb stock - a pig of a rifle. It was responsible for giving Jack a couple of Weatherby eyebrows and an enduring flinch and to this day I'm yet to fire a rifle which was as unpleasant to shoot as that .270. It clearly wasn't the calibre at fault but the shape of the stock, which suffered from



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## The curse - understanding the causes and effects that is recoil

excessive drop at the heel. To explain, my Ruger M77 7mm Rem Mag had a fairly straight stock that kept the axis of the bore lower and in line with my shoulder, which had the effect of pushing straight back under recoil. The Parker Hale did not. Excessive drop at heel of that stock placed the axis of the bore much higher in relation to the shoulder. When fired the rifle pivoted upwards, smashing the comb of the stock into the cheekbone of the shooter with the scope sometimes hitting the eyebrow. Nothing short of a new, straighter stock would have fixed that problem and consequently Jack sold the .270 and bought a .243. With some effort his flinch was eventually overcome.

That incident taught me some valuable lessons and I now shy away from rifle stocks with narrow combs and excessive drop at heel and know the benefit of fitting a quality recoil pad such as a LimbSaver or Pachmayr Decelerator.

Another major factor is weight. Going back to Newton's Third Law, a heavier rifle will generate less recoil than a lighter one. I have a preference for lighter rifles, as

hunting rifles are usually carried far more than they're shot and every extra ounce afield makes that firearm feel much heavier by day's end. This is where we need to strike a happy medium between a rifle that's too heavy or too light - too heavy and it'll be a burden to hunt with, too light and it'll kick harder.

My first 'really big' calibre hunting rifle was a Brno model 602 .375 H&H. It had a Monte Carlo-style stock with a little drop at the heel but its greatest problem was a ridiculously narrow stock comb. Recoil of the .375 H&H is right up there but generally manageable, yet that comb smashed my cheekbone every time I fired it. As luck would have it I almost tripped over an after-market Kevlar stock with straight wide comb at a local gunshop for a reasonable price.

The stock came home with me and not long after I was the proud owner of the most accurate centrefire rifle I'd ever fired, the unpleasant recoil of the original stock having been turned into a manageable 'push'. The Kevlar stock was relatively straight, just like my old Ruger 7mm, and the Pachmayr Decelerator recoil pad

together with the Kevlar stock absorbed the heavy recoil. Problem solved.

Prior to my first hunting trip to Africa in 2008, I decided I needed a .338 Win Mag to do the business and after some prompting by my son Bill to 'let the moths out', I bought a Kimber Montana with reinforced carbon fibre stock and stainless steel barrel and action, weighing in at barely 8lb with mounts and a Zeiss 3-9x40 scope.

Firing handloads of 225gr Barnes TSX bullets at 2840fps, that lightweight outfit generates immense recoil. Under normal hunting conditions I hardly noticed it due to the excellent stock shape and construction, yet it was extremely unpleasant to shoot while sighting-in from the bench. I eventually borrowed a Caldwell Lead Sled shooting rest from my hunting mate Warren, specifically designed to tame recoil of heavy kickers. Adding extra weight to the Sled has the same effect as increasing the weight of the rifle, which effectively fights against felt recoil.

My next pain machine was a lovely Brno 550 in .458 Lott. It had a straight factory Kevlar stock and muzzle brake but still

**The excellent Caldwell Lead Sled with extra sandbags/weight to absorb recoil.**





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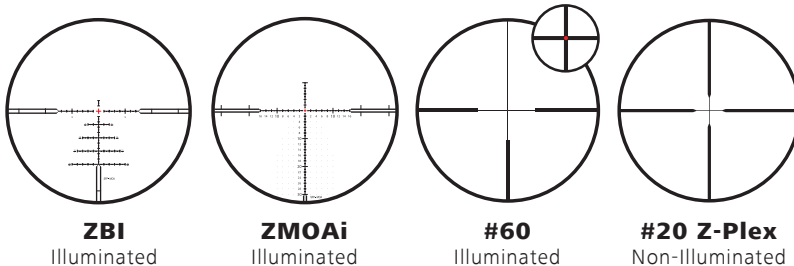
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Seeing beyond





## The curse - understanding the causes and effects that is recoil

generated recoil while hunting and especially off the sighting-in bench. Yet when firing 400gr bullets at around 2400fps it was quite bearable to shoot but with factory 500gr bullets, that's another story. My .458 was bought for a buffalo hunt which didn't immediately go ahead and consequently I sold it to someone who took it to Africa after large dangerous game, where it belonged. But my good mate Paul from the NT regularly uses his Brno 602 in 458 Lott for buffaloes with the milder .458 Win Mag load.

I was recently offered a Brno 550 in .416 Rigby at a reasonable price. The rifle had a timber stock with a wide straight comb, unlike my Brno .375 and, not wanting to sight this cannon in from a bench, I elected to experiment with a double set of shooting sticks.

This necessitates crossed sticks under the fore-end with one stick that protrudes forward to regulate the vertical orientation of the rifle, taped to the legs of a second set of cross sticks which support the butt-end of the stock. With fine-tuning this method was almost as steady as sandbags on a bench, the main advantage being the shooter is standing and so able to roll backwards under recoil, as was intended with these big kickers. I was surprised at just



Flinch cured - Jack with his Sako .243 and several red deer taken for meat.

how well this system worked, considering it was launching 400gr bullets at 2430fps in a 10.75lb rifle. The result was excellent accuracy and ease of sighting-in with no pain, all in all an effective method to combat the effects of recoil.

Muzzle brakes, suppressors and Mercury recoil reducers also have a positive effect on moderating firearm recoil and after fitting an Australian-made grizzly muzzle

brake to my son's Remington .300 Win Mag, recoil was reduced to about .243 levels.

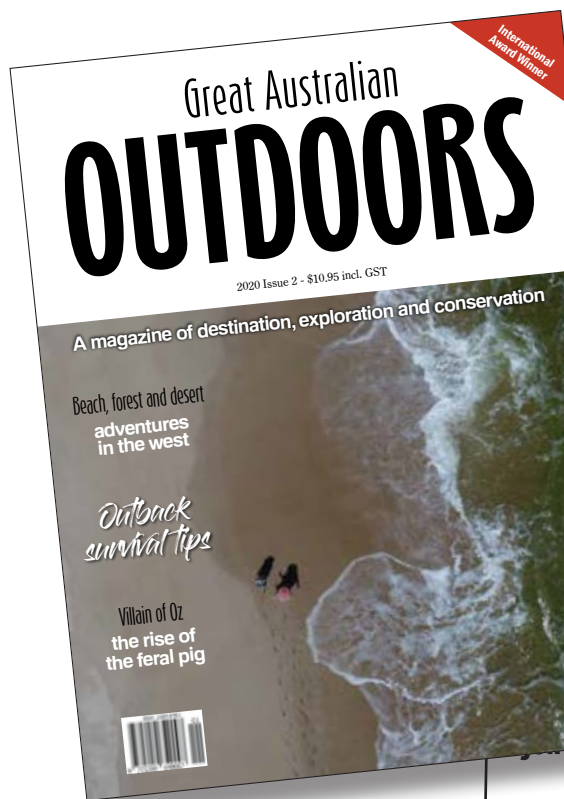
On a tahr hunt in New Zealand, my nephew Frank and I fired the guide's Tikka T3 Lite in .300 WSM fitted with a suppressor which substantially tamed recoil and muzzle blast. There are many factors at play and identifying the aspects and particularities of recoil puts us on the road to a greater understanding and enjoyment of our sport. ●



Shooting the .416 Rigby from the double sticks set-up greatly reduces felt recoil.



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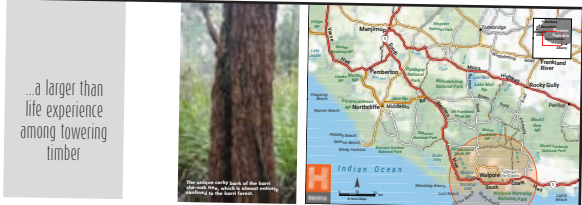
We uniquely consult with environmental experts, farmers, fishers and those charged with protecting Australia's landscape to take an in-depth look at issues affecting Australia's outdoors, along with showcasing beautiful destinations and providing travel tips, reviews and more.

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### Key of the green giants

Thomas Cook

One open a time... some 65 million years ago, a magical world in the south-west of Western Australia stood tall as an extreme climate change drastically altered the world around it. Hiding its ground to emerge victorious from a battle that raged for thousands of years, this ancient empire forced a collaborative relationship with the fledgling human species. Notably, where there was a green heart to enter this mystical land to that in the shoulders of giants and explore the enchanted world hidden beneath their colossal green canopy.



The first high-flying visitor traversed the top of the giant tree trunks in August 1996. The structure was built to allow visitors an up-close and personal tangle tree experience that does not damage the tangle trees. The visitor route means they are never outside to see compacted from people and vehicles traversing these bases. Thoughtfully designed to resemble the local forest floor (*Leopoldia* *serotoma*) and grass (*Leopoldia* *serotoma*), the bridge's supporting pylons blend with the surrounding forest - the space is a testament of the shape of the sword of the land. Constructed of steel, every attribute was made to minimise impact. Walking along the tree tops is the ultimate way to encompass the magnitude of these towering sentinels. You'll hear birds singing and feel invigorated by the breeze between their tops.

### An introduction to metal detecting

Paul Foster

As a hobby, metal detecting is a diverse and exciting activity that can be enjoyed by people of all ages. It involves using a metal detector to search for buried metal objects, such as coins, jewelry, and tools. The hobby is popular in Australia, particularly in the outback and coastal regions. It offers a unique way to explore the landscape and uncover hidden treasures. The hobby is also a great way to spend time outdoors and enjoy the fresh air and sunshine. Metal detecting can be a fun and rewarding hobby for anyone interested in history and archaeology.

### Cruising the Savannah Way

Dick Lissen

Experience more wilderness by cruising the Savannah Way, a scenic route through the heart of Western Australia's outback. The route is a mix of rugged landscapes, including mountains, rivers, and coastal areas. It offers a unique perspective on the region's natural beauty and history. The Savannah Way is a popular destination for tourists and locals alike, offering a chance to explore the region's diverse ecosystems and cultural heritage. The route is well-maintained and offers a variety of activities, including hiking, fishing, and wildlife viewing. It is a must-visit destination for anyone looking to experience the best of Western Australia's outback.

### Lure of chasing pesky porkers entices hunters

Sam Dunn

For many hunters, the thrill of chasing wild pigs is a major motivation. These animals are known for their destructive behavior, particularly in agricultural areas. Hunting them is not only a sport but also a way to protect the land and its resources. The chase is often intense and requires a high level of skill and knowledge. Hunters use various techniques to track and catch these animals, including baiting and trapping. The success of a hunt can be a great source of pride and satisfaction for many hunters. It is a challenging and rewarding activity that has been a part of Australian culture for generations.

### A dangerous adversary that provides the perfect challenge

Sam Dunn

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# Passionate shooter working for shooters



Ross speaks with fellow shooters at SSAA Brisbane.

## Federal MP Ross Vasta speaks to **Nadia Isa** and tells his story from shooting in the backyard to helping form fairer and safer laws for Australian firearms owners

**G**rowing up as an “outdoorsy” child in a family of six, Ross Vasta has fond memories of heading out to shoot with his grandfather who used a 16-gauge double barrel shotgun, which Ross still has to this day. Now Federal Member for Bonner in Queensland, the shooting enthusiast has used his love and knowledge of the sport to enact real change in his community and the broader Australian shooting landscape.

“The most important part of the job is to listen and act on the wishes of your community,” he said. Thinking back on his childhood in Brisbane, Ross recalls spending lots of time outdoors, shooting and taking part in competitions at fetes and carnivals. At age 12 he joined SSAA Brisbane at the Belmont Shooting Complex.

“It’s something I excelled at,” he said. “I’ve always had a passion for shooting. When I became Federal Member for Bonner, I found it such an honour and was so happy to be a patron of SSAA Belmont, the club I joined when I was only 12.” Now the SSAA member shoots handguns, shotguns and rifles, enjoying the camaraderie of the sport and spirit of competitions - and he appreciates the mechanical and artistic side of firearms too.

“I really admire those highly engraved rifles, shotguns and handguns which are rightly considered works of art,” he said. “Shooting is a wonderful recreational sport and beneficial to mental health and wellbeing

during times of stress. It’s important to do what you love and what makes you happy, which is why I encourage people to support their local shooting club and enjoy our sport.”

His love of shooting has led Ross to encourage his children to become involved in the family-friendly sport. “My children had toy guns when they were little and have followed in dad’s footsteps. They’re very competitive with their target shooting and I love that it’s something we can do together as a family.”

### A path to politics

A career in politics wasn’t something Ross had initially planned on as prior to taking up his role in the public eye in 2004, he earned a double degree in HR marketing management and commerce and had always enjoyed working with and helping the community. “Getting into politics wasn’t necessarily something I’d planned to do - I was actually thrust into it by people in the community who put the idea in my head,” he admits.

“I saw the need to help a community who’d reached out to me and got a bigger thrill out of working for my community than anything else I’d pursued previously. I know it’s something I’m passionate about for as long as the people continue to elect me as their representative.”

More recently, Ross has been in consultation with Assistant Minister for Customs, Community Safety and Multicultural Affairs,

Jason Wood, on the subject of firearms regulations, Ross keen to explain how certain regulations regarding firearms need to be addressed. “Jason’s a friend as well as a colleague and he listened to what I put to him and acted on some of the requests we’d had from the industry as well as shooters in general,” he said. “We want to make sure Australia has fairer and safer laws with regard to firearms.”

Ross was also co-chairman of a stakeholder meeting regarding reforms for firearms’ business regulations, which discussed funding for states and territories to bring their paper-based licensing and permits systems into the digital age along with other processes. “There has been far too much unnecessary red tape, meaning different departments and levels of government aren’t able to work efficiently,” he said. “My aim as a shooter is to have this process streamlined and data put into real time.”

The SSAA has promoted safe firearm storage for years, introducing our *Secure Your Gun, Secure Your Sport* program in 2005, and firearms safety is something Ross continues to improve, working on a new initiative to advance firearm storage in rural communities. “We want to enhance our sport and make sure firearms are securely stored,” he said.

“We’re looking at rural areas manufacturing storage facilities for firearms which will create jobs, at the same time ensuring the safety of our community by preventing criminals from easily accessing legal firearms. This has been a problem in the regions and I’m happy we’re working with SSAA on a constructive solution.”

### Working partnership

As the SSAA reached the milestone mark of 200,000 members, Ross has acknowledged the important role the Association plays in the community. “This is a wonderful landmark for the SSAA and we’re seeing increasing numbers of young people looking to become licensed firearms owners, joining recreational shooting and getting involved in competitions,” he said.

“This is great for our sport and the Australian way of life and I encourage more young people to take up shooting as it’s a wonderful sport to be involved in, my electorate of Bonner being a great example - we have the Belmont Shooting Complex which is one of the biggest in the southern hemisphere. That’s a great asset to our community and I’ll always be there to support the club and represent the interests of shooters.” ●

The thumb screw action traverses the receiver from left to right and uses a right-hand thread.



# How Remington rolled out an enduring epoch

Senior correspondent John Dunn

**T**he 1890s ushered in a period of firearms development modern collectors know as the boys' rifle era. From 1890 to about 1945 a host of different firearms makers designed and produced an array of smaller rimfire rifles deliberately made to appeal to boys and girls of all ages. The quality and longevity of the numerous offerings varied enormously but it's fitting, and perhaps not surprising, that the first true boys' rifle made by Remington Arms company is still regarded by many as one of the best. It was the last Rolling Block rifle Remington would make and also the last to be discontinued.

## No.4 Remington Rolling Block

The No.4 was the smallest and lightest Rolling Block action Remington produced. In his book *Remington, America's Oldest Gunmaker - The Official Authorised History of the Remington Arms Company*, author Roy Marcot says the No.4 was "one of

the best-selling sporting guns ever made by Remington or any other American gunmaker. It was a safe, fun gun to shoot with inexpensive ammo, small enough for a boy or girl but felt good when an adult brought it up to his or her shoulder. Despite its low cost it was a well-made firearm and held up well to prolonged use".

All component parts were made from forged steel and were interchangeable, a production plus which Remington promoted in early advertising. Operating the rifle was simple - the hammer was drawn back to full-cock then the breech block was rolled back to expose the chamber, at which point any spent case in the chamber was automatically ejected.

With a fresh cartridge inserted the breech block was rolled back to close the breech and the rifle was ready to fire. When fired, the hammer rolled under the breech block to support and lock it closed at moment of ignition. Alternatively, if the rifle wasn't

going to be fired immediately, the hammer could be let down to half-cock and the rifle carried safely with no fear of discharge.

Made from case hardened, machined steel forging which incorporated the triggerguard and tang in its construction, the No.4 was specifically for rimfire calibres. When first introduced there were two options, a 57cm (22½") or 60.9cm (24") tapered octagonal barrel in .22 or .32 rimfire calibres respectively, then in 1898 the .25-10 Stevens rimfire cartridge was added to the list. Smooth bore shot barrels were available on request.

Barrel stampings were 'Remington Arms Co. Ilion N.Y.' on the top flat with calibre and serial number on the bottom flat forward of the forearm tip. Sights were what Remington described as "plain, open sights" consisting of a simple notched rear and bead-on-blade fore sight, both dovetailed to the barrel and drift-adjustable for windage only. Other sights were available



## How Remington rolled out an enduring epoch

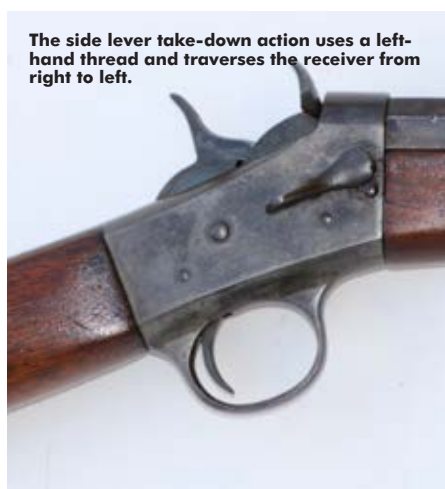
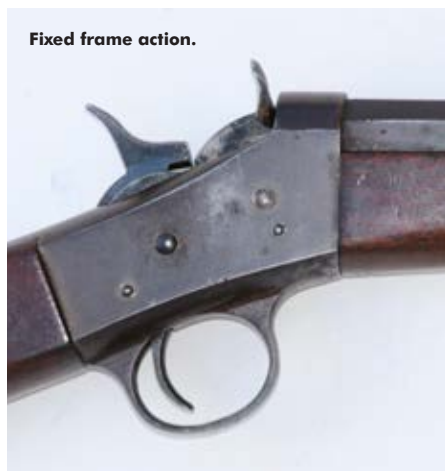
from Remington, as well as other makers, so rifles with non-original sights are often found.

All rifles made from 1890 to 1901 had solid frames, their barrels securely screwed into the colour case hardened receivers, the two-piece stocks made from black walnut. The forearm had a tenon which fitted into the front of the frame and was secured by a screw directly into the bottom flat of the barrel. The buttstock also had a short tenon into the back of the frame under the tang, secured by a screw through the tang which engaged a brass escutcheon inlet into the underside of the wrist. The buttstock was fitted with a steel, rifle-style buttplate, weight a scant 1.92kg (4lb 4oz) with overall length of 92-97cm depending on calibre.

It's believed a total of 157,595 solid-frame No.4 rifles were made during its period of production. In 1902 a new model take-down No.4 was introduced, the same in all respects as the solid frame No.4 except it could be taken down for carrying or storage, the shank of the barrel machined to be a neat slip into the front of the receiver. There it was held by a captive, lever-operated cross bolt through the frame from right to left using a left-hand thread.

The cross bolt had a slightly tapered shank, part of which was machined away longitudinally. When the lever was turned clockwise until it struck a stop pin near the front edge of the frame, the barrel could be removed from or inserted into the receiver. With barrel inserted and lever turned anti-clockwise until it was finger-tight, the remaining shaft of the cross bolt turned and locked into a corresponding groove under the barrel shank, a simple system which worked well and was more than strong enough to contain the pressures of rimfire cartridges.

The barrels were stamped 'Remington Arms - Union Metallic Cartridge Co., Remington Works, Ilion, New York, USA' in two lines forward of the rear sight, 'Remington Trade Mark' in two lines stamped between the rear sight and front of the receiver. The calibre was stamped on the angled face between the top and side flats just forward of the receiver on



the left-hand side and the serial number appeared on the bottom flat forward of the forearm tip. The steel buttplate was stamped 'Remington UMC' in two lines inside a circle.

In 1914 production of the No.4 was recorded at 40 rifles a day. This ceased during the war years, resuming in 1919 and continuing until 1924 at which time some 96,000 side-lever take-down No.4s had been made. In 1913 a new variation of the No.4 was introduced, the No.4S Boy Scout Model, a solid frame military or cadet-style rifle initially made for and advertised by Remington as "Official Arm of the American Boy Scouts".

The first No.4S looked like a military rifle. Marked as 'Boy Scout' it was chambered for the .22 Short rimfire cartridge, the barrel 71cm (28") long with military-type sights and a stacking swivel. The stock was made from oiled walnut with a long, military-style fore-end complete with top wood, leather sling and even a small bayonet with scabbard which could be bought at extra cost. Overall length was 109.2cm (43") with a weight of 2.27kg (5lb).

There were complications around use of the Boy Scout name and in 1915 the designation was changed to No.4S Military Model. The only differences between the two are the name, a shorter blade on



The thumb screw take-down No.4 was introduced in 1924 and was in production until 1933. It was the last Rolling Block rifle Remington made.

## REMINGTON FIREARMS

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Each rifle enclosed in a strong and neat pasteboard box. Ten packed in a case.

In ordering sights, please state if wanted for No. 4 Rifle. For parts and prices see page 53.

the front sight and longer chamber in the Military Model which would accept the .22 Short, Long and Long Rifle cartridges. The No.4S was last advertised in Remington Catalogue No.107 dated 1923, at which time a combined total of 6000 Boy Scout and Military Model rifles had been made.

In 1924 the Improved Model 4 was introduced and while it used the same action as previous No.4 rifles, changes were made elsewhere. The side lever take-down system was abandoned and replaced with a knurled rim, coin-slotted thumb screw which ran through the receiver from left to right. On the same side of the receiver

behind and below the take-down screw was stamped 'Model 4' and the serial number, which was also stamped on the bottom of the barrel in front of the forearm. Top of the barrel was marked the same as the side lever No.4.

The almost trademark octagonal barrel also fell by the wayside, replaced by a shorter 57cm (22 1/2") round version with a screw-adjusted elevating rear sight, calibres offered staying the same. The old rifle-style steel buttplate gave way to a newer, shotgun-style version and the rifle remained in production until 1933 when the Great Depression finally hit and it was no



The No.4 action closed. Notice the front of the hammer rolled under the breech block to support and lock it at moment of firing.

longer economical for Remington to keep making them.

Despite its popularity the No.4 Remington Rolling Block wasn't without its faults. A curious little one-piece, three-pronged flat steel combination spring which kept the breech block, trigger and extractor under pressure was prone to broken arms and replacements are now hard to find. Both take-down systems suffered excessive wear if the cross bolt screws were cinched up too tight and almost paradoxically, the thumb screw type could easily be lost if it wasn't tight enough.

Perhaps more significantly the rifle had to be cocked to open the breech for loading. When the breech block was closed the rifle was left in a fully cocked and loaded state, requiring the hammer be eased into the half-cock position to make it safe, hardly ideal for something promoted as a premier boys' rifle. For all of that the No.4 Remington Rolling Block has endured as an iconic boys' rifle and good examples of the various types are increasingly difficult to find, especially No.4S models. From introduction until the time it was discontinued some 356,000 No.4 rifles were made. ●

The side lever take-down No.4 was introduced in 1902, this rifle chambered in .32 Short or Long rimfire.



# Environmental rewards flourish with SSAA input

Nadia Isa

**D**espite unrelentingly dry conditions in the Ikara-Flinders Ranges of South Australia, the reintroduced populations of western quolls and brush-tailed possums are continuing to thrive, surviving three of the driest years on record. Both species were extinct in parts of SA before the Foundation for Australia's Most Endangered Species (FAME) and the State Government partnered to reintroduce the animals in 2014, assisted by key funding from the Sporting Shooters' Association of Australia.

SSAA environmental volunteers were praised for paving the way for rarely seen species to flourish in the area, with our team assisting in the management of feral pests including cats and foxes. FAME's ongoing support of the reintroduction project in the Ikara-Flinders Ranges is now focused on effective fox and cat control to further help both species as they continue to establish themselves in the region. Managing cat numbers to lower levels has been important in helping these established populations expand and survive the drought.

With continued fox and feral cat management, western quoll and brush-tailed possum populations will continue to grow. Returning these species to the northern Flinders has only been possible through



Caught on camera: One of FAME's images of a reintroduced possum.

the ongoing commitment of FAME and its partners, particularly the Bounceback Program, SA Arid Lands Landscapes Board and the many private conservation and pastoral landholders who collaborate with the program throughout the Flinders, Olary and Gawler Ranges in northern parts of South Australia.

More than 20 years since its inception, Bounceback still operates across National Parks, Aboriginal-owned and managed lands, private sanctuaries and pastoral tracts, the goal of passionate stakeholders remaining the same - to restore the

landscape to its original state. An integral part of this has been the control of pest animals in the region, particularly foxes and feral goats coupled with strategic rabbit warren ripping and noxious weed-spraying.

The involvement of environmental volunteers, including the SSAA, in feral pest control activities and data gathering as part of Bounceback has been credited for achieving tangible results. In SA's mid-north, native wildlife has been invigorated including the restoration of a species previously extinct in the region. In part thanks to the SSAA and our wildlife volunteers, the western quoll was reintroduced to the area several years ago after not being seen there for 130 years.

In early 2020, due to COVID-19 restrictions, trapping and monitoring which would ordinarily help provide a health-check of both quoll and possum populations in the Ranges was unable to be completed. Instead, motion-sensor cameras have been providing a picture story to show how both species fared last year.

Western quoll activity has been detected in a group of hills only four kilometres west of the Oraparinna Station buildings, an area in which they've not previously been found, indicating a population has established in a wider area. Rescheduled trapping and monitoring is ongoing. ●

## RECALL NOTICE SAVAGE ARMS B.MAG BOLT (17WSM)

NIOA

**NB: This product recall has been active since 24 August 2015**

Savage Arms has discovered that the bolt on some B.MAG rifles may inadvertently catch the safety button and slide it forward into the "fire" position.

To avoid possible unintentional discharge, injury or death to users and bystanders, do not use your B.MAG rifle until your bolt has been retrofitted with a new bolt handle and cap. For more information and instructions on receiving your free bolt retrofit, please contact NIOA below.



Left: Existing bolt handle. Right: Revised bolt handle with detent mark on arm.



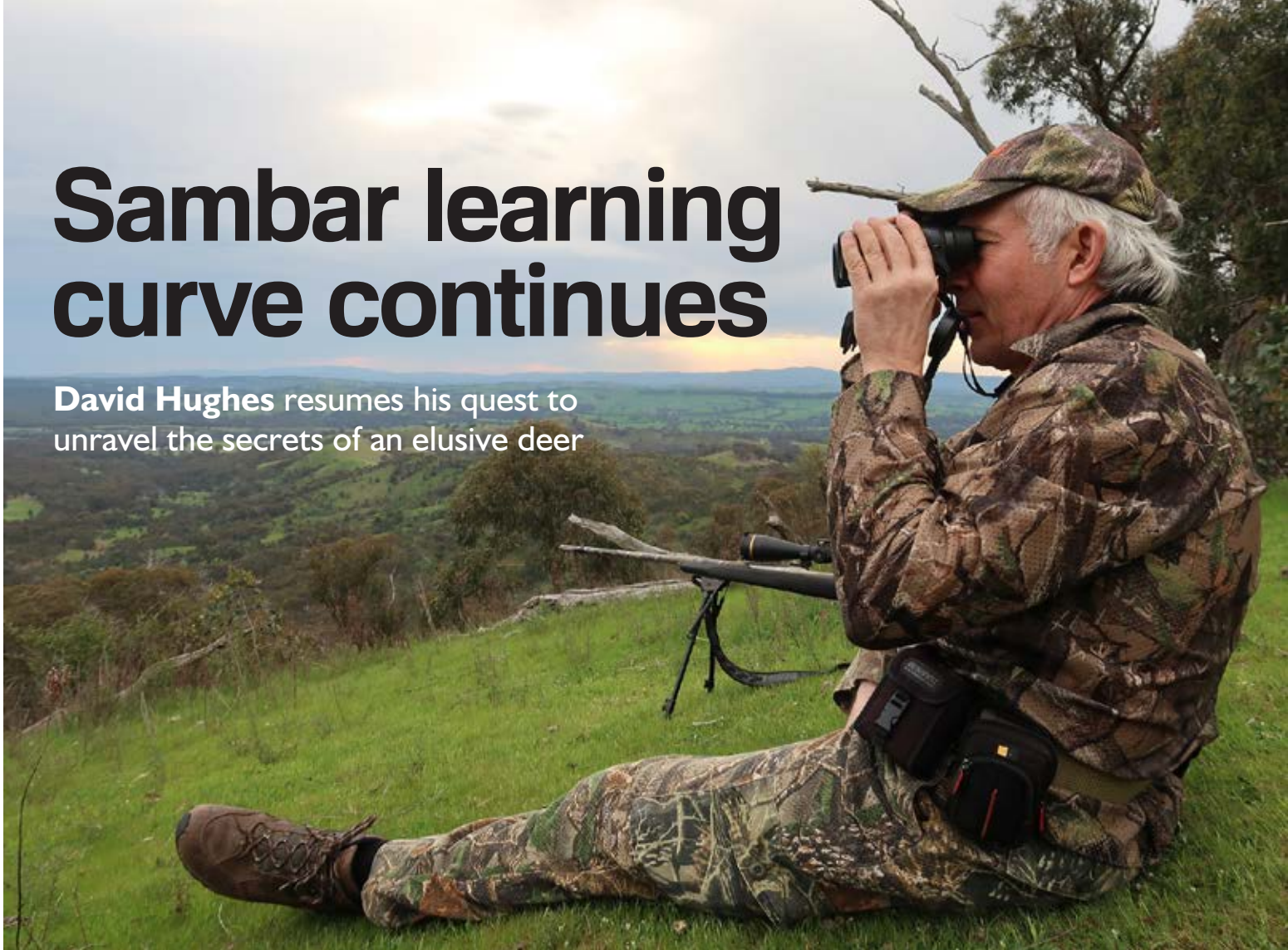
Left: Existing tapered bolt cap. Right: Revised blunt bolt cap.

**CONTACT NIOA** • Phone: 07 3621 9999 • Email: [sales@nioa.com.au](mailto:sales@nioa.com.au)

**MORE INFORMATION** • Visit: [www.nioa.com.au](http://www.nioa.com.au) (Click on News / Recall Notice)

# Sambar learning curve continues

David Hughes resumes his quest to unravel the secrets of an elusive deer



**T**he ute ambled uphill along a track which contoured near the top of the ridge line, the driver enjoying views across a steep valley into broken timber on the far side. Chris suddenly pulled the vehicle to a halt - he'd seen a group of sambar - and as I rolled out of the passenger side in response to his urging, I could make out a few dark shapes disappearing upwards into the forest on the opposite hillside. A single, quite large animal remained, standing broadside at about 200m.

I hastily deployed the bipod, one of its legs on the bonnet and the other through the open door on the dashboard. Through my new Leupold VX-6HD scope I noticed the deer's head and neck were partially obscured by a thin spray of gum leaves immediately in its front, not a problem, so I took aim and squeezed the trigger.

With a crashing boom the 30.06 Winchester Model 70 despatched its 150gr Norma E-Tip solid copper projectile and immediately the beast launched itself forward and slightly downhill to disappear into a patch of brush. I felt the shot was

good and knew from experience a mortally wounded animal usually runs downhill. It was my first full day hunting a private property not far north of Melbourne. Keen to expand my fairly rudimentary knowledge of sambar, I jumped at the chance to try a region different from the alpine areas I'd previously experienced, my primary mission being a meat animal but, if a stag with a decent head presented, so much the better.

The previous day I'd rendezvoused with my guide, Chris, at the nearest service station and after grabbing a few provisions we travelled in convoy to the hunting grounds where he'd established a modest camp. During the remaining couple of hours daylight we reconnoitered the territory we'd be scouring during the coming days.

It was warm with the mercury having touched 30C earlier, the sun casting a golden glow over the landscape. The hunting strategy was to drive along the ridges, halting periodically to glass. Chris had chosen a series of lookouts from which clearings in the timber were visible across the steep valleys and these could

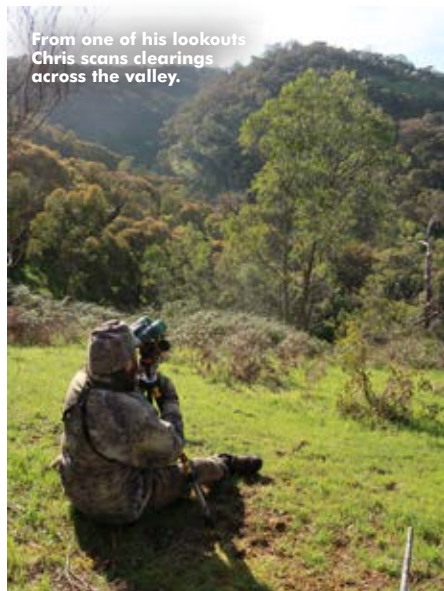
be carefully scrutinised for sambar activity using binoculars and spotting scope.

From one such vantage point I caught a fleeting glimpse of the aft end of a sambar disappearing behind foliage, Chris picking up a yearling and calf in the vicinity of the mature hind I'd first seen. The little family group, typical of the area according to Chris, wandered slowly in and out of sight before vanishing as quickly as they'd appeared. At about 500m they were well out of range in any event, yet was awesome to have seen three deer within an hour of arriving.

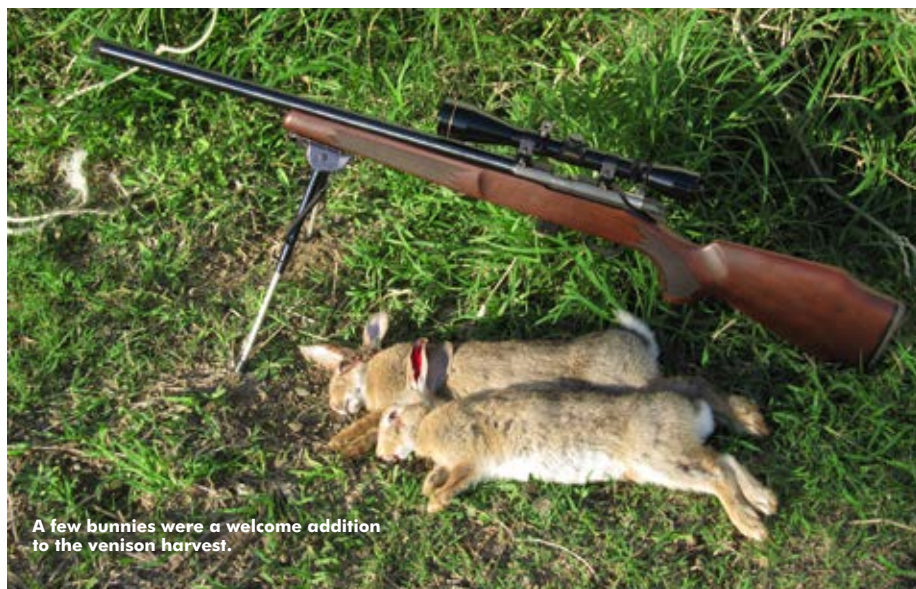
Next morning we were up well before the sun and sallied forth as soon as there was enough light to see. The weather had turned for the worse, overcast and blowing a cold southerly and we were freezing when glassing from exposed hilltops. From one lookout we spotted a small herd of sambar away in the distance, drifting in and out of view behind low brush and eventually we counted six deer in total. One was a stag in antler (perhaps 20" class), a couple were spikers and the rest hinds and calves. On previous hunts I'd only ever seen solitary sambar but here it seemed groups were the



## Sambar learning curve continues



From one of his lookouts Chris scans clearings across the valley.



A few bunnies were a welcome addition to the venison harvest.

norm - my knowledge was expanding.

Then Chris spied another animal across the valley. It was bedded and closer inspection revealed it to be a spiker in company with a similar beast. At a ranged 320m they seemed quite unconcerned, allowing plenty of time to hunker-down and prepare for a shot. It was an awkward lie, being sharply downhill yet requiring me to aim about my elevation straight across the valley. This was arching my lower back well beyond its comfort zone and I fiddled about for ages before finding a tolerable position.

Boom! After a microsecond delay the bedded stag was up and running - a clean miss. Chris had videoed the action using his mobile phone cradled behind the spotting scope and we could see the bullet strike some fallen timber about a foot lower than I needed to be. Though I'd been on the paper at 300 yards on the range, I hadn't allowed in the field for the difference compared to metres, nor properly for the bullet drop at that distance - another learning experience.

We took a break during the middle of the day and killed some time chasing a few rabbits near the camp. There was a fence line which demarked the sambar-inhabited forest from the open grazing pastures of the lowlands, a good covering of grass interspersed with blackberry thickets. The rabbits were hanging about the fringes of these spiny refuges and I nailed three bunnies with successive head shots. Happy with the harvest we returned to camp, skinned and gutted them then headed out on the afternoon hunt.

Which brings me back to the deer mentioned earlier. After the animal had vanished into a scrubby thicket, Chris pointed the ute in that direction. He



David with the young stag.



reckoned it hadn't left the patch of brush and knew a footpad off the vehicle track which would take us close to that spot. Reaching where it had stood I was pleased to see an easy-to-follow blood trail and in the increasing gloom we found the young stag and dragged him out to level ground before starting the butchering process - my shot had entered the centre of his left shoulder, pretty much right on the money.

It started to drizzle as I removed the hind legs and backstraps and by the time I was ready to attack the punishingly steep slope back to the vehicle it was practically dark.

Carrying a leg as well as my backstrap-laden daypack to the top had me gasping for breath and I was forced to dump the pack to retrieve later. Chris reckoned a typical hind leg weighs about 17kg, certainly more than my training involved and of course to finish the job I'd have to do it all over again.

During the next day and a half we looked over the property from several different aspects and on every outing saw deer, more often than not a long way off. For the fit and keen most of them could be pursued and for those with long-range rigs there would be opportunities at 500m and beyond. Typically

they were in small family groups and on one occasion I was interested to spy two fawns watching me intently from a shallow gully not more than 70m away. I took photos in lieu of more venison.

Overall I was satisfied with this latest adventure, having shot my fourth sambar and replenished the freezer. This hunting experience was different from previous trips to the high country, the terrain more benign with deer likely accustomed to seeing vehicles and people. Perhaps most importantly I had learnt substantially more about sambar. ●



A sambar spiker has lots of tender venison as David removes the backstraps.



A leg of venison ready for dissecting into the major muscles before vacuum packing.



Nearly ready for the freezer - muscles laid out as they 'fell off' the bone.



# Henry know-how serves up repeat success

Con Kapralos



The shotgun in .410-bore as supplied.

The humble .410-bore shotgun is often overlooked as an effective small game getter. While the 12-gauge rules the shotgun kingdom, the .410 with its relative lack of recoil and availability of loads up to a 3" chambered length make this an effective smoothbore out to 30m. It even has a following in skeet shooting circles which illustrates its effectiveness at closer ranges.

In Australia the .410-bore enjoyed a reputation as a 'snake gun', being propped behind the farmhouse door in the event an unwelcome visitor slithers into the house and needs seeing off. However, storing firearms behind a door is now illegal, as is shooting snakes. Even so, the .410 has bagged its fair share of rabbits for the table

and accounted for unwanted pest species with equal aplomb.

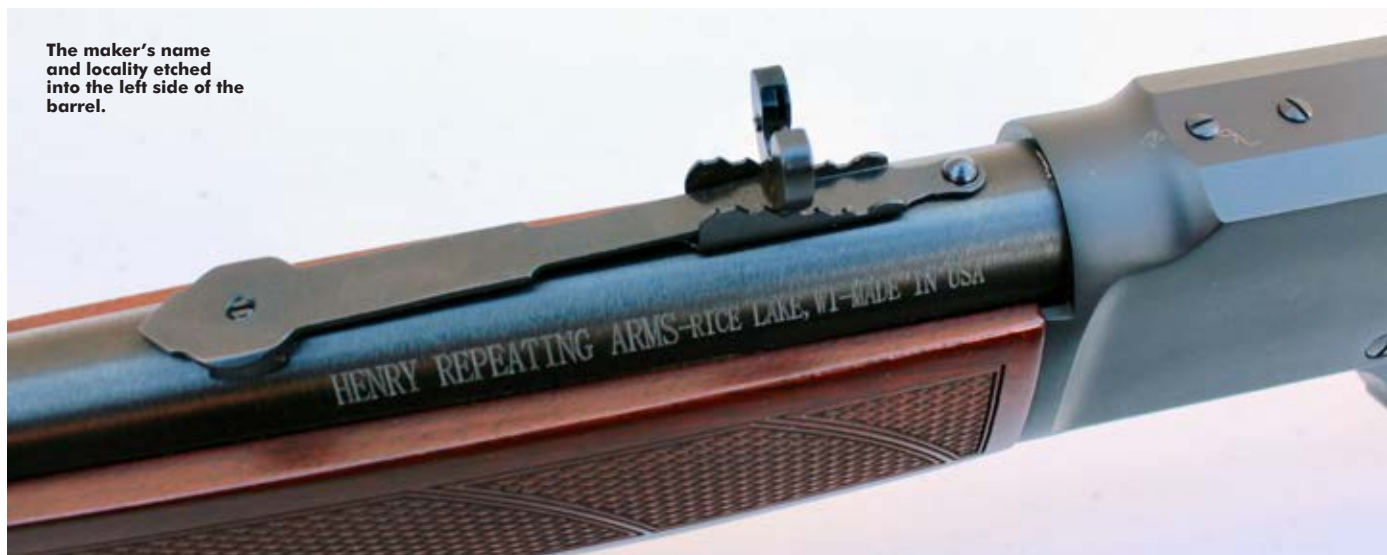
Henry Repeating Arms Co. of Rice Lake, Wisconsin has been manufacturing quality rifles and shotguns for years and has a loyal fan-base in the US. They currently produce some fine lever-action rifles and shotguns as well as single-shot, break-action rifles and shotguns. Their handy .410-bore lever-actions are highly regarded and the current catalogue lists two models, the H108-410 in 24" barrel with removable full choke and front bead sight and the carbine model, the H018-410R Rare Carbine with 20" fixed cylinder-bore choke and adjustable rifle sights. Outdoor Sporting Agencies, Australian importer and distributor of Henry Repeating Arms, sent *Australian*

*Shooter* the latter model for review and it was eagerly received.

## At a glance

The .410-bore cartridge has similar dimensions to the popular .45-70 Government straight walled cartridge which has allowed Henry's engineers to glean most of the design features for the H018-410R from their .45-70 lever-action rifles. That aside, the review gun arrived in a cardboard carton which also contained the usual instruction manual as well as literature for the US market only. Opening the carton yielded a well-proportioned longarm with attractive walnut stock and matte blued metalwork, the shotgun measuring 975mm and weighing 3.43kg.

The maker's name and locality etched into the left side of the barrel.





The action of the Henry H018-410R in the closed and open positions.

### Lever-action and trigger.

The action and lever mechanism are made from steel and finished in a lovely matte blue, the lever of an oval profile with slight curve which follows the profile of the neck of the stock. This allows the hand to sit comfortably within the lever and doesn't cause any unwanted binding of the fingers when cycling the action.

Top of the action is flat and drilled and tapped for accepting a Weaver 63B scope mount, if ever needed. Two angular flats either side of the top flat give the receiver a bit more definition and these meet up with the flat profile of the sides of the action, the ejection port sufficiently large to eject the 2½" shells by means of the claw extractor and ejection mechanism.

The exposed hammer is serrated for increased grip and grooved to accept Henry's hammer extension. Inside the hammer is a transfer bar safety which prevents the gun from firing unless the trigger is fully depressed and the single-action of the trigger unit yielded an acceptable break, measuring 1900g on my trigger pull gauge.

### Magazine

The gun is fitted with a tubular magazine which sits under the barrel and is mated to the action, the magazine tube finished in the same matte blue as the barrel and action. The magazine holds five rounds and is loaded by accessing and twisting the knurled steel knob at the end of the



Brass magazine liner fully withdrawn with red plastic follower indicating an empty magazine.

magazine tube which allows the brass liner to be pulled out. With the liner pulled out to expose the red polymer follower, the 2½" .410 shotshells are easily dropped in and, once loaded, the liner is simply pushed into the magazine and locked in place with the knurled knob.

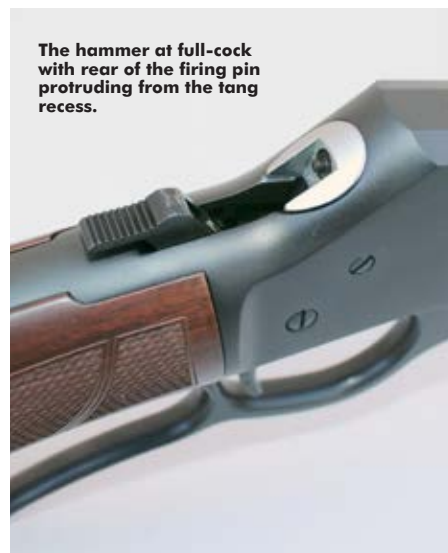
### Barrel

The test gun, being the H018-410R Carbine model, has a 510mm (20") steel barrel with smooth bore profile, terminating at the muzzle with no degree of choke, so designated as a 'cylinder' choke. In reality, for the applications intended in a .410-bore shotgun, the choke supplied is more than adequate for shooting out to 30m.

The barrel is also fitted with a gold-bead



Well-profiled ejection port was large enough for the fired 2½" .410-bore shells to be removed with ease.



The hammer at full-cock with rear of the firing pin protruding from the tang recess.



The front sight with brass bead worked well with the rear sight when shooting static targets.



## Henry know-how serves up repeat success

front sight and fully adjustable semi-buckhorn rear sight, handy if shooting at static targets or slug loads through the H018-410R. If shooting moving targets the sights would naturally have to be ignored and your eye kept on the target, not the barrel. The maker's name and gauge/chamber length are inscribed into the barrel near the receiver on either side underneath the semi-buckhorn sight.

### Stock

This is testament to the maker's expertise in designing lever-action rifles and shotguns. Being carved from handsome straight-grained American walnut, the two-piece stock set is finished with a matte urethane, adequate for a utility firearm as such. The fore-end is fitted to the barrelled action with a steel cap which supports a sling swivel stud, the buttstock shaped with a curved pistol grip and its open radius matching the curved lever precisely.

There's another sling swivel stud near the toe of the stock and a ventilated black rubber recoil pad finishes the stock off, giving a slip-free contact surface and dampening the miniscule recoil of the .410 shells. The two-piece stock is finished with a highly practical diamond chequering pattern cut into all three sides of the fore-end and on both sides of the pistol grip surface. Execution of the chequering is some of the

best I've seen on a lever-action and gives the shotgun a sense of class and style.

### Field testing

I discovered that while .410-bore ammunition is widely available it's quite pricey, then again their larger brother in 12-gauge doesn't fare much better, with recent price rises in ammunition globally not making things any better. As is the way when buying shotshells, a case of 250 will work out cheaper in the long run. Tracking down ammunition in the 2½" chamber length was easy, with the Winchester brand freely available in shot sizes 2, 4 and 7. With the gun being lever-action means I wouldn't

Its design, form,  
function and fit  
made this lever-  
action shotgun  
one worth  
considering...

use it on clay targets but rather targeting pest species such as rabbits, hares and birds like starlings and feral pigeons.

The shotgun's handling and light weight meant carrying it in the field was a pleasure, with no sling needed. Shooting static and moving targets out to 30m with the cylinder choke gave positive kills and the gun cycled and ejected the ammunition with no faults whatsoever. Being environmentally minded I picked up all empties which can be reloaded and were earmarked for a friend who does just that with the .410-bore.

### Conclusion

Henry Repeating Arms has come up with a great model in the .410-bore lever action H018-410R and its brother the H018-410 and I forgot how much fun it was to shoot the .410-bore, having been almost 30 years since I last fired that round. If you limit shots to 25-30m and use the appropriate shot size for your intended quarry, either model in the H018-410 line-up will meet your requirements and be fun to use in the process. Its design, form, function and fit made this lever-action shotgun one worth considering if looking for a .410-bore longarm for plinking or small game hunting. The H018-410R retails for around \$1700. More at [www.osaaustralia.com.au](http://www.osaaustralia.com.au). ●



## SPECIFICATIONS

**Manufacturer:** Henry Repeating Arms Co., US

**Model:** H018-410R Carbine

**Action:** Lever-action shotgun

**Calibre:** .410-bore, 2½" shells only

**Finish:** Blued steel barrel, magazine and receiver. Receiver drilled and tapped for scope mounting

**Stock:** American walnut

**Barrel:** 510mm (20") smooth bore, cylinder choke fitted with brass bead front sight and semi-buckthorn rear sight

**Trigger and safety:** Single-stage trigger with hammer-mounted transfer bar safety

**Magazine:** Tubular - 5-round capacity

**Length:** 975mm

**Weight:** 3.43kg

**RRP:** \$1700 (approximately)

- ask your dealer

**Distributor:**

Outdoor Sporting Agencies

# Steiner binoculars solve optics puzzler

Mark van den Boogaart

**A**s you build your shooting and hunting kit, eventually you must address the question of optics and in considering riflescopes, binoculars, maybe even cameras and video equipment, the cost of all that glass and accompanying electronics adds up, so choosing wisely can save you plenty over time. One piece of the optics puzzle is a spotting scope and whether checking shots at the range or antlers in the field, this is something worth considering.

Spotting scopes let you, at least optically, close the gap between you and the intended target and can also save your legs and help plan an approach when stalking game. Thing is, a good spotting scope is an expensive investment and while many European stalkers still use modern equivalents to the older-style collapsible telescope, for most of us a spotting scope is used from a fixed position and needs a quality tripod.

So what if you want something a little

more portable? Is the answer a smaller scope or higher magnification binoculars and are higher magnification binos really a spotting scope alternative? It's a question I wanted answered so decided to see if Steiner's new HX 15x56mm binoculars would fit the bill.

## Steiner's HX 15x56mm

Why the Steiner? To be honest I'm impressed by their gear. The HX series is Steiner's most up-to-date dedicated hunting binoculars with the catalogue winning a number of awards for optical design and performance. The binoculars chosen were the 15x56mm, the largest in the HX bracket, and while ample and tripod compatible they're classed as hand-held and are still small enough to fit into a suitably-sized binocular chest rig.

Out of the box along with your new binoculars you have eyecup protectors, product manual, cleaning cloth, binoculars

strap and a shielding carry case with its own carry strap. To protect the objective lens Steiner attach two individual pressure-fit covers to the binoculars. The neoprene strap is comfortable but what's best is how it attaches, the HX series incorporating the smart *Clic-Loc* system which does away with a buckle and loop fitment for the neck strap and uses a push-in, click-out connector - simple but effective.

These roof prism binoculars are built around the Steiner *Makrolon* housing, a Steiner propriety designed polycarbonate frame wrapped in NBR-Longlife rubber armouring, giving you a set of binoculars with 11G impact rating. If the Makrolon housing is all about making sure you have a robust internal frame, the external design and layout of the HX series ensure the binoculars are more comfortable for the user. Finally to seal the unit, Steiner use a dry nitrogen injection process to prevent fogging in both hot and cold weather.





## Steiner binoculars solve optics puzzler

Optically, Steiner binoculars use lens coating technology which helps improve light transmission and, combining this with a Nano protective coating, you have good light transmission and clarity from lenses designed to minimise the adverse effects of dust, dirt and fingerprints. And bringing it all together, focus is controlled via the Fast-Close-Focus system. Essentially the HX is fixed via a precise central wheel which helps focus and refocus on the fly. It's highly sensitive and does help peer and concentrate on a singular point or animal. In short the specs are good, features excellent and the overall package is well designed and comfortable to use.

### Bench test comparison

In looking to investigate the idea that Steiner 15x56s could serve as a viable alternative to a spotting scope I needed a fair comparison, so chose a Kowa TSN-501 spotting scope. As far as dedicated scopes go it's a good quality unit as well as being small, compact and light and has an angled eyepiece (I've used this scope on lots of hunts).

Between the two units, physically it was a fairish comparison as the Kowa is similar in size though lighter with a greater magnification capability and smaller objective lens. The test platform was our front deck from where we have some good forestry views and birdlife is abundant and as the deck is elevated, you don't see too many odd looks from neighbours when setting up binoculars, a spotting scope and camera test rigs.

As best I could I tried to run a side-by-side comparison and, in doing so, the obvious difference was ease of use with little noticeable alteration in observation.

In terms of practical usability the spotting scope just didn't compare with the Steiners. As you can imagine, using both eyes made sighting and focusing at distance, especially a moving target, that much easier than with the spotting scope - even on a tripod the HX 15x56s made more sense. The binoculars' 15x power magnification, combined with the 56mm front lens in most cases, gives you optically the benefits of a spotting scope without the obvious limitations.

### In the field

I'm far more of a hunter than shooter so for me a review needs some field time. Luckily there was a deer hunt planned so I'd a chance to see what the big binos were really like. Long-time hunting mate Tim and my eldest son headed south to our favourite fallow deer property chasing freezer-fillers, though we wouldn't pass up on a buck if one showed itself.

On the first day we managed to put one in the esky and missed a couple more but it was generally slow going so we spent a lot of time glassing for game. During that period the differences between the two systems became all the more apparent - in fixed position on a tripod and with a comfortable chair the spotting scope worked a treat but glassing with the binoculars was a little more active.

After a while we took them off the tripod and began moving around, checking different angles from various vantage points. In your hand, resting on a stump, leaning against a tree or off shooting sticks the binoculars came into their own. Around the fire that night it was suggested the difference between a spotting scope and higher magnification binoculars was a lot like the variance between bait and



The stump, one of the handy observation points used during the hunt.

lure fishing. Both methods are extremely productive but one is a lot more active than the other.

It all came together on Sunday morning when we spotted a buck. At about 800m from our location, Tim first caught sight of the animal and while I tried to reposition the spotting scope, he continued to track it through the Steiners. When I finally lined up on the deer it looked like a typical bush head but, as it was Tim's first, was certainly trophy worthy.

Planning the hunt he was able to use the Steiners to work out his approach and check some points of cover and with that he grabbed his gear and headed out as I took over observation duties with the binos. The buck was helping the cause and stayed close to the area it was first spotted until after about 30 minutes it moved, or more correctly dropped into a shallow gully partially obscuring the view.

About 10 minutes later I heard the shot and madly scanned the area looking for a fleeing animal but couldn't see anything, so my son and I waited. Not long after, Tim walked back into camp and gave us the thumbs-up so we jumped in the ute and went about retrieving the animal.

### Verdict

Are a set of high magnification binoculars like the Steiner HX 15x56s a replacement for a similar quality spotting scope? The answer is no. But are they a practical alternative? Most definitely yes, so why? Unless you really need the extra power afforded by a spotting scope, the Steiner HX binoculars are able to do the job in nine out of 10 situations.

Used as hand-held binoculars or tripod-mounted, the Steiners are just the ticket for checking out, at longer range, game in the field via a more useable, adaptable and honestly more economical package. So if you're thinking about stepping up to a spotting scope, consider going for the Steiner HX 15x56mm binoculars - you might just save yourself a few dollars. ●

Test rig - comparing the Steiner HX 15x56s to a compact spotting scope.



# Firing blanks

Rod Pascoe



Remember the school athletics carnival, warming up before the 100m sprint, settling into the blocks, pushing your fingers into the turf behind the start line? The sports master raised a little pistol above his head: “Take your marks,” he’d shout, “get set.” Then, bang! Senior Correspondent **Rod Pascoe** remembers how Mr Simons’ starting pistol looked and sounded much like something James Bond may have used.

Starting pistols - blank-firing gas, signal or alarm pistols - have been around for a long time, not just for starting races but other purposes such as scaring away annoying animals and, in some parts of the world, as a non-lethal form of self-defence. The ammunition these firearms used, loosely referred to as blanks, are effectively the same as regular ammunition without a projectile or bullet, so is it ammunition in the true sense of the word? In Australia, blanks come under the Firearms Act definition of ammunition and are regulated as such.

While many firearms collectors and gun experts may look down their noses at

anything which doesn’t fire real ammunition, blank-firing firearms have a varied and interesting role in military, industrial, entertainment and scientific work. Depending on the application, blank ammunition is designed to provide either noise, smoke, gas, flame, shockwave or some (or all) of the above.

Their smoke and flash simulates live gunfire for military training and in movies and TV shows. Their power can drive industrial fasteners through steel and concrete or start a tractor engine. Their noise can frighten birds from airports, measure acoustic qualities in concert halls, start yacht races and accustom horses and gundogs to the sounds of the hunt. Their flame can

ignite bags of gunpowder in large artillery pieces and their flash and noise - combined with a dash of pepper - can be fired in the face of would-be attackers.

As early as the 1930s, Europeans had been carrying blank guns when the real thing was either illegal or too expensive. Postmen would use them to frighten dogs which looked at them menacingly and at the time these little pistols were a common accessory and made to resemble real pistols even though they were incapable of firing *real* ammunition.

To my surprise I discovered that in Germany, for instance, the practice of carrying blank pistols is still common



## Firing blanks

today. In fact, Umarex in Arnsberg makes a number of realistic replicas of current handgun models along with an array of blank ammunition, some of which produces a flash or a dose of pepper which could be dangerous if used at close range. As stated, a round of blank ammunition consists of a primer and powder charge contained in a cartridge case and topped with a seal to protect the powder from moisture - and from falling out.

Different powder charges are used depending on the application, black powder popular for its smoke and noise in movies and historical re-enactments and colour additives used for special-purpose pyrotechnics. A blank cartridge can be easily constructed by putting a powder charge inside a conventional brass case and sealing it with a wad of card, plastic or cork then using a dab of paint, shellac or varnish to keep the powder dry.

Alternatively, by using a special die, either a rose or rolled crimp can be formed on the mouth of a brass case and while that works fine for revolvers and single-loading firearms, some repeating and self-loading rifles and pistols will not feed, fire or cycle these rounds. Where repeated fire is required from a lever-action rifle or military-style rifle or pistol for example, a *bulleted blank* is required, where a bullet shape is formed into the top of the blank cartridge to simulate a bullet, ensuring the blank round would feed from a magazine into the chamber normally.

Training soldiers for warfare usually requires them to fire weapons in realistic combat situations, usually at each other. The necessity here is to have rifles simulate real gunfire without causing damage to themselves or their 'enemy' though another important requirement is for the firearm to function properly, as if it were firing live ammunition.

When automatic and semi-automatic functioning firearms are used, special adaptors are placed over the muzzle to divert some of the energy of the blast to operate the action of the rifle, pistol or machine gun. This is called a blank fire attachment (BFA) and these are a common sight on military training exercises.

Another purpose of this device is to deflect or destroy any projectile should it accidentally be loaded and fired and some BFAs can be set up to divert a proportion of gases from the burning propellant to cycle the firearm. Some blanks did fire a hollow, lightweight wooden bullet, the .303 Bren gun bulleted blank being one such example, the live-fire barrel removed and replaced with a special blank-firing barrel. This



barrel had a steel bar across the muzzle to splinter and destroy the wood projectile and deflect fragments towards the ground (there was enough gas retained behind the wood bullet to allow the gun to function normally in semi and automatic mode). There are various blanks for military applications, one being specifically to launch a grenade from a special device fitted to a rifle.

High-powered blanks can not only start races they can also start engines. Marshall, among others, produced a diesel engine starter in the shape and size of a regular 12-gauge shotgun cartridge. Used in the Field Marshall tractor, this powerful blank was fitted in a breech in the side of the engine and the exposed firing mechanism simply hit with a hammer, the force of the charge enough to move a piston which in turn would quickly crank the engine. But this type of blank cartridge was not limited to tractors as large piston tank and radial aircraft engines, along with a number of jet engines for aircraft such as the Hawker Hunter and English Electric Canberra bomber, could be started by similar methods.

Long before pneumatic nail guns and other power tools appeared on building sites, the Ramset gun was commonly used to drive a hardened nail through or into wood, steel or concrete firing a powerful charge contained in a blank cartridge resembling a .22 Long Rifle round - without the bullet. A splash of coloured paint was used to seal the rose crimp on the case mouth and to identify the power of the charge, from green meaning light to the heaviest charge being red. Ramset, Hilti and other brands of such devices are still in use today for certain situations but the operator must



Advertising from 1932 depicting this Walther blank-firing pistol as an essential accessory. Photo: Walther.

be trained and certified in most states and territories.

The noise produced by a blank is used for a number of industrial purposes including acoustic measurements, the echo (or

reverberation) produced from various surfaces helping architects and designers choose the right building materials and place them so as to reflect or, in some cases, absorb sound.

Another application is recording the short, sharp sound from a fired blank to measure the reverberation time in a specific building such as a church, warehouse, indoor squash court or railway tunnel being used as a movie location. Impulse Response recording is the process of sampling an acoustic space by a short, loud noise such as from the sound of a gunshot, to measure a room's reverberation properties. With clever software the exact reverberation time of a particular space can be replicated and applied to an actor's voice to give the impression the actor is at that location when in fact they're in a post-production studio.

On the subject of movies, have you ever pondered the number of rounds of blank ammunition which have been fired in films and TV shows? Taking the American Western as an example, in the 1950s and '60s every production had at least one major shoot-out where hundreds of rounds were fired per episode, not to mention multiple re-takes when actors - or cameras - weren't in the right place at the right time.

Demand for blank ammunition was huge and regular live ammunition manufacturers of the time devoted a large part of their production line to making blanks, a popular round being the 5-in-1 movie blank which were produced in their millions by a number of US manufacturers. As 'cowboys' used basically the same ammunition in their lever-action Winchester as their Colt revolvers, cartridge manufacturers economised by making a blank which would fire in the .45 Colt revolver, the .38-40 revolver and lever rifle and the .44-40 rifle and pistol, hence the 5-in-1 movie blank.

Since then almost every world military conflict has made it to both the small and big screen and, in modern times, demand for more and more blank rounds were required as machine guns and automatic rifles in *The Thin Red Line* and *Saving Private Ryan* spat them out faster than any Western ever did.

Film productions are required to have an armourer on set who not only supplies firearms and blanks, but instruct actors in their use. Actors are trained to 'aim-off' when firing at close range so the blast or unburnt propellant and wad material doesn't land on their fellow actors (there have been fatal accidents on movie sets when blanks weren't used as intended). Furthermore, actors are trained to affect body movement to simulate recoil, which doesn't normally exist with blank firearms. Some firearms



A 5-in-1 movie blank (left) alongside a live .45 Colt, .44 WCF and .38 WCF.



Widely used around airports, Birdfrite did just that.

used in movies are highly modified so the cycling mechanism works faultlessly while still giving a realistic impression of live gunfire.

Believe it or not there's a shooting sport which involves firing blanks. Similar to the SSAA's Single (Western) Action discipline, Cowboy Mounted Shooting is a popular and spectacular sport where shooters on horseback gallop against the clock shooting at, and hopefully bursting, inflated balloons with revolvers, rifles and coach guns. Not only is this a real challenge for rider and horse, it creates a modern-day re-enactment of the American West.

Using special blanks similar to the 5-in-1 movie rounds, the aim is to burst the balloons in the quickest time (a missed balloon means a time penalty added to the



7.62 NATO blanks for various purposes and made of different materials. The half-blackened cartridge is used for launching grenades from a rifle.

score). Apart from the noise and smoke of the black powder propellant, the blanks also provide a shower of hot burning particles to help puncture balloons. Apparently these loads can destroy balloons out to a range of 5m, yet despite this the audience can safely sit in the circular arena without fear of being injured by gunfire. It could be argued this is more an equestrian rather than shooting event, but either way it's entertaining and it is sport.

So is blank ammunition really ammunition? Hopefully this article has enlightened collectors, historians and *Australian Shooter* readers alike and there are some good YouTube videos, some showing Cowboy Mounted Shooting, starting diesel and jet engines as well as other interesting examples of firing blanks. ●





# Wiley X shooting glasses - give yourself the edge

Paul Miller

Some say the eyes are a window to the soul and I'm sure there's some truth in that as most would agree eyesight is the sense we'd most want to preserve. While hearing, taste, smell and feel are all important, the loss of your eyesight must be the most difficult to cope with irrespective of age. This is never more relevant than in the shooting sports with protective glasses now mandatory in all competition or range shooting in Australia - and also highly recommended for recreational shooters hunting in the field.

For years we've seen a number of proprietary shooting glasses offered by big brand names like Winchester, Beretta, Tasco and Browning. These were well designed, supplied with clear and coloured lenses and did the job perfectly, protecting shooters with good eyesight who didn't need glasses with some correction or specialized lens colours to help them see targets under specific conditions. I used this type of glasses with mainly yellow or vermillion lenses for years until recently when my eyes started to age and I needed prescription lenses to see clay targets clearly again.

Today there are many manufacturers specifically making glasses for the shooting sports and some of these have shooting glasses as part of their overall inventory of glasses for safety, sport and military applications. Wiley X is one such brand from the US and the Saber Advanced 3 Lens Kit we have here for review is a fine example of modern technology at an affordable price.

They're smart looking, cleverly designed and appear to be an offshoot of their military glasses and can be bought as a single-lens pair or in kit form with two or three lenses in colours recommended specifically for shooting under varying light conditions and at targets of different colours.

What makes these glasses more economical than many other brands is the ability to buy a PTX prescription insert and have two clear lenses in your prescription made up by your optometrist which can be easily attached to the adjustable nose bridge. This means you can have several coloured Selenite polycarbonate lenses and interchange them as conditions dictate, a much more economical approach than having various interchangeable coloured lenses all

made with your prescription.

In this kit we have Smoke Grey which allows about 14-20 per cent light transmission through the lens and are best used under very bright conditions. Secondly, Light Rust which allows 53 per cent and enhances low-medium light and for many people enhances orange clay targets against green backgrounds. Finally the Vermillion lens also works well in low-medium light and again transmits 53 per cent light transmission and highlights orange targets for shooters who find this colour more effective than Light Rust.

Also available separately is a clear lens for last-light or night-time shooting and yellow for similar conditions but for people who find their eyes prefer this enhancing colour in dull conditions. All lenses are made of shatterproof polycarbonate to US ballistic standards and comply with our very stringent AS/NZS 1067 standards for eye protection.

The glasses themselves are totally modern in design and look, very light and with adjustable temples for ear comfort. Alternatively, the temples can be removed

and replaced with the included elastic tactical strap, which is very comfortable and great for securing the glasses should you find yourself in a precarious position like looking directly down where you risk them falling off.

The kit comes in a useful protective carry case which can be attached to your belt and has two extra internal compartments to protect lenses not being used. The kit comes with excellent instructions and a secondary protective bag for the glasses and cleaning cloth.

They've performed well for me so far during this test period. I had my optometrist make a set of my distance prescription for the white-coloured PTX insert which clips in easily and gives me excellent vision. I was initially concerned about the size of the insert as I can see it in my peripheral vision but when I'm shooting I don't see it in my sight picture.

The lens colours provided work well for me, having the problem most ageing men experience with orange targets being very difficult to see clearly under certain light and background conditions. You'd logically think fluorescent orange would really stand out against dark backgrounds but for most of us it doesn't.

The problem is for years we've used these targets thinking they must be better than black for the very varied trajectories and light and shade situations sporting clay-type competitions provide. Ironically we're beginning to realise coloured targets and particularly orange ones against certain backgrounds don't make for an improvement as target recognition depends predominantly on movement and contrast, not colour.

This use of orange clays has meant several manufacturers have numerous colours and tints to try and help us better see orange targets. A simpler solution would be to use more contrasting colours like white and yellow against these backgrounds and in intermittent light and shade, where orange provides a poor contrast and therefore many of us have trouble seeing it clearly.

With sensible coloured lens selection from Wiley X - especially Vermillion, Light Rust and Yellow - you can expect quite a bit of improvement in your ability to see orange clays, it just depends on your eyes and which of these coloured lenses suit them best. For me, Light Rust lenses made targets much easier to acquire, track and successfully shoot with a dark tree background at our club. Vermillion and Yellow were also good but Light Rust saved the day.



Wiley X was founded in 1987 by military veteran Myles Freeman Snr. who launched his small company to develop impact-resistant eyewear for the men and women of the US armed forces. Fast-forward 30 years and Wiley X is run by Myles' sons Dan and Myles Jnr. who make a vast range of eyewear and goggles for soldiers and law enforcement officers, racing car drivers, fishermen, skiers and shooters as well as all sorts of industrial uses.

Said Myles Jnr: "We'll continue to work hard at applying what we've learned in the battlefield to benefit as many people as possible - and make the best vision protection available to the broadest audience." That sounds like a serious mission statement and one from which safety and performance-conscious shooters in Australia can only benefit.

Sold with a 12-month warranty, this kit is made in the US with an RRP of \$109 and the PTX insert is \$30 (extra Polycarbonate lenses are \$39 each). Single-vision prescription lenses are about \$200 but shop around. If you were to buy the kit with two extra lenses, PTX prescription insert and prescription lenses this would total about \$400.

You could economise, save on extra lenses and be looking at about \$320, which is considerably less than half the price of other brands on the market. Obviously you



get what you pay for in life but this kit is well designed and, with the prescription insert, you only have to buy one set of prescription lenses and change the much less expensive coloured lenses as you see the need.

For the technology, comfort and price this three-lens set from Wiley X comes highly recommended. Most bases are covered by the lens colours available but remember, everyone's eyes are different. Ask for Wiley X at your local gunshop or visit [wileyxaus-ustralia.com.au](http://wileyxaus-ustralia.com.au). In the Newcastle, NSW area visit Frontline Safety Australia, Unit 4D, 45 Fitzroy St, Carrington 2294. ●





Near instantaneous main  
charge detonation.

# What a shot!

## Capturing the elusive nanosecond

David Alderson

Combining my two favourite pastimes, blackpowder shooting and photography, has brought me much pleasure and equally as much frustration. Trying to catch decent images of the fleeting nanoseconds of ignition and discharge of both muzzleloading and cartridge firearms has led me a merry dance for decades, from the good old days of 35mm film - with a week or so wait to see the results - to the current fantastic technology available in digital cameras and even mobile phones.

Many shooters would have attended or at least seen photos of a night-time blackpowder shoot, the older among us no doubt recalling childhood memories of Guy Fawkes Night with all the smoke and sparks, the noise and of course that wonderful smell. One of the most commonly used photographic techniques back then was to open the camera shutter, set off an initial short duration flash to light up the shooter who then fired the shot, with muzzle flash providing sufficient light to expose its image on the film.

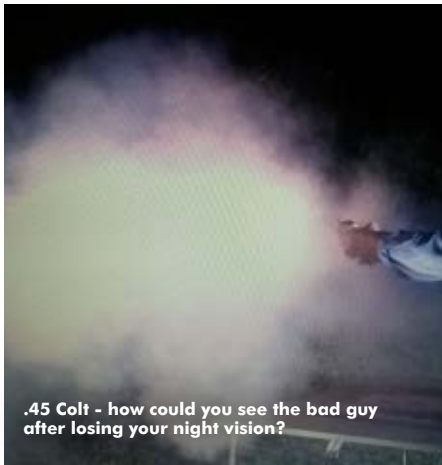
These pictures clearly showed a shooter with a cocked firearm at one end and impressive but blurred flames emanating from the other, or if the shooter happened to move between flash and firing, flames and muzzle misaligned or even completely disconnected - not easy on the eye. And speaking of eyes, these results demonstrated just how amazingly far and wide sparks from blackpowder firearms can and do go, particularly flintlocks, so always wear adequate eye protection.

Roll on a few years and along came SLR (single lens reflex) cameras with motor-drive film advancement, images acquired at two or three frames per second producing great examples of exactly how much recoil a firearm generates, yet catching the moment of discharge was still pretty much a matter of luck. It was only when digital cameras arrived, with 'Sport' mode and other selectable continuous shooting modes and video capability, that I started seeing the results I was after, though luck still played a big part. For every 20 or so images of flame and smoke I was only managing

two or three of the impressive moment of firing. Then one day at a muzzleloading rifle shoot I took some mobile phone video clips of various participants. Reviewing them after downloading at home, mucking around and playing them back one frame at a time I was pleasantly surprised to find I could capture the exact instant of ignition and discharge in almost every case, flintlock images in particular being quite amazing.

Sharpness of focus and the colour and sheer volume of flame put my old night-time shots to shame and made me realise just how much goes on, faster than the eye can see. How many flintlock and matchlock longarm shooters are aware there's a large ball of intense flame just centimetres from their face with every shot?

This sometimes extends under hat brims, always lighting up face and chest, and all the shooter perceives is its brief blast of heat. Casual observers from behind or to one side may grab a glimpse of a flash, but it barely gives an indication of what's really taking place and all this can be captured photographically in broad daylight.



Using this video frame grab technique I've been able to catch a lot of other interesting nanoseconds - not surprising with frame rates of 24 to 60 or more per second depending on what device is used - such as shot-cloud meeting clay target and arrow leaving compound bow. Some days I become so involved in photography I don't do much shooting.

My favourite and absolutely luckiest image so far is that of the Magazine Lee-Metford Carbine, everything nicely in focus except the cocking piece on its way forward. This was taken in 'Sport' mode and in the next frame the shooter has already lowered butt from shoulder as he hadn't been expecting such stout recoil. The next challenge I've set myself is to catch the exact nanosecond a big slow-moving .577 Miniè pierces the target - but don't hold your breath. ●







# Swarovski zooms in on perfection

Chris Redlich

I've no doubt the engineers at Swarovski Optik research and development are constantly working hard to provide shooters with the perfect riflescope balance of size, features and magnification and I was keen to put one of their recent offerings to the test. The review scope is the Z8i 1.7-13.3x42 P (P for adjustable parallax), a feature-filled compact item with a versatile and realistic magnification range suited to my kind of shooting - hunting.

In addition to an already impressive suite of standard features it has an illuminated 4A-IF Flex Change Reticle and optional Ballistic Turret Flex (BTF). I reviewed the Z5 2.4-12 x 50 BT (Ballistic Turret) in the November 2019 *Australian Shooter* and absolutely loved it. But why 1.7-13.3x and not 1.5-14x? Swarovski designate their scope models with exactly the magnification available and don't round the power up or down like other brands. Z8 represents eight times zoom and available in the Z8i line-up is the .75-6x20, 1-8x24, 2-16x50 P, 2.3-18x56 P and 3.5-28x50 P.

## Out of the box

Impressive at first glance, the scope comes packaged with transparent covers, spare

battery, lens cleaning cloth and user manual and in the hand has a solid feel compared with others of similar size. Weighing 620g and measuring a slight 335mm in length, it's unmistakably well balanced and compact, designed to complement the serious mountain hunter's rifle. Based on a 30mm main tube, the body is made from aerospace-grade alloy and has a durable and distinct matte black finish.

On inspection it's clear the ocular housing supports more than a generously proportioned 39mm lens and integral to the top of the housing is the illuminated reticle adjustments with a switch for alternating between night and day brightness settings. The illuminated reticle switch and dioptre adjusting can be made within close proximity, enabling the shooter to obtain finger contact with little effort, the dioptre ring easily gripped and adjusted for a clear reticle image. The variable magnification dial is at the forward end of the ocular housing and firm rubber lugs are easily rotated with gloves in wet weather.

Turrets occupying the centre position include parallax adjustment (left side) with elevation and windage, the CR-2032 three-volt battery housed within the

parallax dial and located by unscrewing the outer dial, parallax adjustable from 50m to infinity for ultra-sharp, long-range images. Conveniently housed within the windage turret cap is a spare battery for the illuminated reticle which is released by pressing a soft rubber button in the centre of the cap. This model of Z8i riflescope has a huge 150 clicks of adjustment for elevation and windage, each click having a value of 10mm/100m. This large amount of clicks enables the shooter to take full advantage of the scope's long-range attributes used in conjunction with the BTF which has 70 clicks of adjustment.

At the business end is a 42mm objective lens protected by trademark Swaroclean and Swarolight coatings delivering razor-sharp, high contrast images and undoubtedly the best glass I've ever had the pleasure to hunt with. The large ocular lens combined with 42mm objective provides a large 25.2m field of view at full zoom and comfortable 95mm of non-critical eye relief.

## BTF explained

My review scope came fitted with optional BTF (Ballistic Turret Flex), arguably the most versatile turret available, the beauty



of the BTF being it can be removed and readjusted with minimal fuss and no tools. Simply press the turret release button with a pointed object such as a bullet or pen and refit by pressing back into place with a single positive click. Once zeroed, the supplied range rings are aligned to the turret spline at the 6 o'clock position, the BTF supplied with five rings which are available on order.

Once the desired range setting is dialled in, the elevation turret dial can be secured by a lock ring at the base, a 90-degree turn required to lock and release the dial. Reinforcing its flexibility, the Z8i windage adjustment is also set to accept the BTF for those who like to dial up against crosswinds.

Swarovski has a ballistic app available for matching the BTF to your rifle and cartridge combination including handloads and for this it's important you have each chrono graphed to help with data input on the app (I mounted the Z8i to my Sauer Classic in 6.5 Creedmoor and customised my BTF to suit Hornady's American Gunner 140-grain BTHP ammo).

For someone mildly 'tech challenged' the ballistic app once downloaded to my phone was extremely easy to work out. Starting with rifle calibre through to brand and weight of ammunition, it was a simple case of following the bouncing ball. Also available on request is a personal ballistic ring (PBR), a tailor-made accessory for the BTF which offers a high level of customisation for hunting distances relevant to you and your rifle. The PBR is engraved for the BTF based on personal data inputted to Swarovski's ballistic program and adapted to your specific ammunition.

### Z8i 4A-IF Flex Change Reticle

Firstly, the 4A reticle has been around for many years and remains a favourite of hunters worldwide for its rapid target acquisition, heavy posts at the 3, 6 and 9 o'clock positions connecting to fine posts at centre helping draw your eye to the target from dawn to dusk in thick bush. Secondly, to further enhance the reticle's functionality, Swarovski has added a fine circle to the centre and high intensity dot illumination.

The illuminated dot function assists the hunter with centring the reticle in poor and challenging light conditions. Identified by a moon and sun indicator, the switch above the dioptre ring can be slid left for night or right for daytime. Both night and day have a massive 64 combined brightness settings and are adjusted by pressing flush the 'plus' and 'minus' rubber buttons on top of the ocular lens housing, the multiple brightness

levels meaning there's a setting to suit any condition Mother Nature throws at you.

Exclusive to the .75-6x20, 1-8x24 and the 1.7-13.3x42 P (tested) is Swarovski's 4A-IF designated Flex Change Reticle, where essentially you have a dual reticle option. By simultaneously pressing the 'plus' and 'minus' brightness buttons for three seconds, the fine centre circle and dot are both illuminated and once again brightness levels are adjusted as with the dot illumination. If this sounds confusing it's not, it's actually straightforward to operate, with the same hand used to adjust magnification so providing flexibility to switch from 4AI and CDI reticle as the need arises.

### Range and field testing

The Z8i 1.7-13.3x42 P mated perfectly to my Sauer Classic rifle using 30mm-high rings, giving roughly 45mm above bore line height. The 60-degree bolt throw of the Sauer clears the ocular lens and the scope's height is perfect for rapid sight alignment. For rifles with 90-degree bolt throw take notice when mounting to ensure your bolt clears the ocular housing.

Once sighted-in for zero at 100m, I aligned my sight rings to the correct position of the BTF using the ballistic app. Apart from the odd one or two click differences which was to be expected, my Sauer in 6.5 Creedmoor was smashing scores at two, three, four and beyond, the Z8i 1.7-13.3x42 P with BTF a perfect complement for fantastic accuracy of the 6.5 Creedmoor shooting American Gunner 140-grain HPBT ammo.

Even at 400m I was nowhere near close to exploiting the BTF's capability. The Z8i BTF has 70 clicks of adjustment with enough elevation to hit targets comfortably at 700m and in all seriousness I wouldn't

be shooting deer further than 300-400m. But having the ability to dial up your scope and easily land a kill shot on a marauding wild dog or fox out to 700m with the 6.5 Creedmoor is appealing. This was reinforced on an afternoon shoot at the local range and using the app I adjusted the BTF to the corresponding 46 clicks for 600m, a single 5-shot group of around 90mm underlining the app's accuracy.

An opportunity to flatten a wild dog didn't arise but the chance at a pre-roar red deer did and on a hastily-arranged trip, in fading afternoon light under clouds in thick bush, a red deer hind moved into view and effortlessly, the combination made light work of target acquisition and we grassed the hind.

### Conclusion

If I didn't already have a full quota of optics in my armoury, including a few Swarovski scopes, I'd be buying a Z8i 1.7-13.3x42 P. The absolute versatility of all functions including the Flex Change Reticle in reach of your fingertips is a winner, and I'm certain any shooter with the chance to pick up one of these scopes would agree. In addition, Swarovski Optik has pioneered the brilliant Ballistic Turret so for the 'Rolls-Royce' of hunting optics you can expect to pay \$3890 at time of writing, without Flex Change Reticle \$3590 and the optional BTF is \$390. More at [swarovski.com](http://swarovski.com), for local stockists email [optic.sia@swarovski.com](mailto:optic.sia@swarovski.com) ●





A machine rest is used to reduce human error to a minimum and facilitate data recording.



# The vagaries of terminal bullet performance

Steve Hurt

Sit around a campfire or the table at any hunting club meeting and sooner or later someone's going to ask what calibre is best or what type of bullet or brand of ammunition you use. Many have opinions but few have empirical evidence of any qualitative or quantitative substance to support their particular point of view, so this article is an attempt to explore the principles of terminal bullet performance for the purpose of enabling a hunter to choose the type of bullet most likely to meet a desired outcome.

## Test objectives

The primary objective was to test and quantify the structural integrity of bullets touted for use in harvesting medium and large game. It's not an attempt to simulate the reaction of game or forecast a biological response to the use of any product, we simply set out to discover the terminal performance limitations of bullets of various types and what those might look like for the bullet, not game.

## Methodology

Three dry sandbags were set up at a measured 50m, a group of five samples fired and the sand sifted through a domestic flour sieve for bullets and fragments, the results then cleaned, measured and weighed where possible. Certified, calibrated micrometres and Vernier callipers were used for external measurement and certified laboratory scales, accurate to 0.02 grains, used for weighing.

## Sand as a test media

Many would question the use of sand and indeed it has flaws from a scientific stance. Firstly, experimental repeatability is difficult as sand is available in many grades and moisture content can distort results (we used dry Sydney sand). Secondly, sand was not intended to replicate game as a suitable penetration comparison. Game animal structure varies considerably and a mud-encrusted sambar deer or buffalo would in no way be replicated in density by sand.

However, a bullet's penetration in sand is different to game animals, even buffaloes, and it's remarkable how similar the resistant effects of large heavy game and sand are in terms of final terminal outcomes for the bullet. Compare results for the three Outer Edge projectiles (375-12-265 BBT) fired into sand at a fixed 50m range, to those recovered from trophy buffalo bulls at various distances of 30-80m (photo 2). Effects on the bullets are similar and consistent and if anything the feedback figures suggest buffaloes were slightly tougher on the bullets than the three 20kg bags of sand. Sand is also cheap and readily available. No attempt was made to qualify or quantify other attributes such as accuracy, product cost, effective range, availability or environmental considerations.

## Test results

A factoid is, for want of a better definition, a paradigm or position so often discussed by so many people that it's commonly held to be true, even when there's not a shred of evidence to support it. The shooting industry is rife with factoids and this anecdotal data seriously challenges some of these paradigms.

Sectional Density (SD): First factoid is the heavier the bullet, the higher its SD and by implication the greater the improvement will be to its terminal performance by penetrating deeper to reach the vitals. In other words, it should kill better. The data in no way supports this view in that there appears to be no correlation between a bullet's weight, passive SD and terminal Functional Sectional Density. For mathematicians, sectional density is defined as the bullet's weight (measured in grains/7000 - there are 7000 grains in a pound) divided by the square of the diameter in inches and expressed in a three-digit '0.xyz' number.

The most obvious problem is passive SD is measured in its dormant form. What we really need to know is the bullet's SD when doing its job, especially when looking for consistent results on game. Pre- and post-firing comparison figures show the starting

weight of a bullet in the magazine doesn't forecast its likely expansion or retained weight and this is what we need to know. In forecasting terminal performance of a bullet this should be our focus as the numbers alone don't provide regular answers.

The other issue is functional SD operates on a different numeric scale. Any bullet which expands to two or more times is going to produce a very small SD number and any loss of mass will reduce this figure further. The largest number in such a scenario would start 0.0yz (measurements in hundredths, not tenths) making any comparison dubious. In isolation the passive SD numbers quoted in bullet description tables don't support any conclusion enabling us to forecast terminal performance, except perhaps for the use of solids, but what this data does demonstrate is there's a much stronger correlation between bullet structure and materials used and functional SD.

Take the following case in point. The Sierra 308 220gr RN SN (photo 3) with passive SD of 0.331 completely disintegrated in this test medium, having no terminal sectional density to speak of which could be effectively measured. On the other hand, the OEP 25-calibre bullet (photo 1) with 80-grain starting weight and just over half the passive SD of 0.173 had terminal expansion of 142 per cent, maintaining 96 per cent of its weight and returning terminal SD of 0.030, a tiny figure by comparison. Starting SD numbers don't predict much and final numbers little more.

To drive the point home, this little bullet was recovered from a steer shot at 90m through the forehead on a frontal shot, travelling down the spine and recovered from the fourth neck vertebrae - it dropped like a stone and never twitched. No casual review of the SD numbers alone would have predicted this outcome before the event under the current paradigm. The 220-grain Sierra would ordinarily have been awarded the deeper penetration expectation - uncontested to the point few would even consider it worth proving. It's important not to lose perspective here as the 220gr Sierra may well have been effective in achieving a humane kill but the objective we're examining is to evaluate bullet performance itself, not the biological outcome.

It's possible from this small database to identify a number of so-called light-for-calibre projectiles (usually copper) which are substantially heavier than their larger conventional counterparts while the bullet is doing its job. For example the 308 150-grain OEP (photo 6) recovered weight average is 148.52 grains, the 308 Sierra 220-grain RN SN (photo 3) broke up into pieces so small that any attempt to measure them was pointless.

The 308 Scirocco (photo 4) which started life at 180 grains retained an average weight of 123.18 grains, so the lightweight copper bullet ends up being the functionally heavier which goes a long way to explaining why copper bullets out-penetrate conventional projectiles when they're so much lighter. It's not because copper bullets are harder, they're not, they just don't give their momentum away through loss of mass (simple momentum = mass x velocity).

### Materials and structure

The data and photos clearly support the idea that structure and materials have a much greater influence on a bullet's functional SD than its launch weight. Consider the consistency of expansion and weight retention in the monolithic group in the table and compare them to the conventional cup and core and 'core bonded' groups. The conventional cup and core group was extremely consistent in that they were universally shredded to small particles, the mono-metal group unswerving in maintaining maximum weight retention in the 95+ per cent range and expansion similarly reliable.

Results in both cases were steady enough to form the foundation

**Photo 1: A 257 80-grain OEP salvaged from a steer.**



**Photo 2: The 375 265-grain OEP recovered from sand and a buffalo.**



**Photo 3: Examining five 308 150-grain OEPs.**



**Photo 4: A view of a 308 168-grain Berger.**





## The vagaries of terminal bullet performance

of predictability we seek. Each product group had different outcomes but were reliably dependable, which is important as it assists greatly in making better forecasts regarding future terminal performance expectations for a particular type of bullet.

The 'core bonded' group was another matter and superficially more confusing, the most challenging issue being to bypass marketing hype as the data and photos clearly demonstrate there's core bonded and there's *really* core bonded. Just because a bullet is described as mechanically locked into place by a cannelure or other such mechanical attempt doesn't mean its core is bonded to the jacket. Two of the four core bonded bullets behaved unfailingly as though they were conventional (and more frangible) cup and core bullets and test results demand they be placed in that category, for core bonded they were not.

The two real core bonded products, Swift Sciroccos (photo 6) and Australian Woodleighs (photo 7) honoured their description. Weight retention across this category was less coherent, producing an average in the 70 per cent region for lighter calibres and around 90 per cent for the heavies. While this level of harmony is not as high as the other two groups across the entire range (once the 'mechanically bonded' bullet data was removed), it was sufficiently consistent to expect and plan for likely outcomes. The only trick with this group is to ensure the claimed core bonded bullet really is and not be misguided by clever marketing. Who'd know this without testing?

### Conclusions

Each of these product groups has attributes to promote or discount them for different applications. Consider the following challenging scenario: A professional shooter has been engaged to tackle troublesome deer wandering in to the peri-urban fringe, causing a significant traffic hazard. The shooter must consider a projectile to deliver a humane outcome while reducing risk of over-penetration to the greatest extent possible. This will limit shot options due to limitations in penetration and require a head or side-on chest point of aim as there are greater concerns than passing up a difficult angle shot. In this case, frangible bullets are the most obvious choice. In more relaxed hunting situations our options are broader, the frangible bullet may still be a contender but it does limit shot placement opportunities.

A humane outcome is dependent on destroying vital organs as quickly as possible and frangible bullets may not achieve this on a difficult shoulder shot and have virtually no likelihood of doing so on a raking shot. Should the bullet break up before it penetrates deeply enough to reach the vital organs, an unpleasant follow-up task ensues. Wounded animals are not an option so again a more conservative approach to shot placement is required.

Many hunters seem reluctant to consider a bullet which holds together sufficiently to potentially pass through an animal and this, yet again, is another campfire paradigm. If the bullet smashes vital organs and the animal drops to the shot, whether the bullet is still inside or has passed right through is a moot point. Conversely, if the vitals were not reached, whether the bullet remained inside or passed through is again entirely academic - you still have a problem on your hands.

How unreasonable we are in expecting a bullet to smash the vitals on a perfect broadside and mushroom just under the skin on the other side, then anticipate the same bullet to reach the vitals on an angling, frontal or raking shot. It's not possible. Do you have the discipline to decline a shot at that stag of a lifetime simply because the angle isn't perfect? If not, a deeper penetrating bullet may provide greater opportunities and more humane outcomes.

The thing about knowing how a bullet will perform regarding

expansion and weight retention is the hunter can now choose with confidence. It's unlikely many will change their views easily on this subject on the strength of this exercise alone as paradigms, like habits, are difficult to break. Our purpose here is to present the evidence for the reader to consider. ●

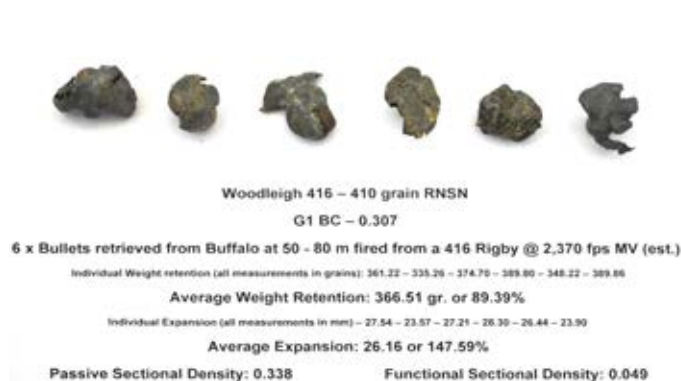
Photo 5: Result of a fired 308 220-grain Sierra.



Photo 6: Aftermath of the 308 180-grain Swift Scirocco.



Photo 7: Close-ups of five 416 410-grain Woodleighs.





Daniel tests a Mossberg 464 Mariner 30/30 which would have been problematic on his old lead sled.

# Caldwell Lead Sled tames curse of recoil

Daniel O'Dea

A bit more than a decade ago when setting up my shooting bench, the one item I invested in which has not only had most use but has also been most useful is my Caldwell Lead Sled. What's a 'lead sled' you might ask? Basically it's a shooting rest platform made by US-based accessory firm Caldwell you literally load up with weighted bags of lead shot, or something of similar heft, which absorbs more than 90 per cent of a rifle's felt recoil on firing. It deals with felt recoil and provides a rock-steady rest for precise and repeatable shooting.

In shooting terms everyone's affected by recoil, it's basic physics where the difference lies in whether or not it bothers you, like pain - something may hurt but does it deter you enough to stop you doing it? Recoil also affects practical accuracy and in my experience most people shoot lighter calibre rifles more accurately and consistently than heavier ones.

Personally I've always had a more than reasonable tolerance towards felt recoil. In my mid-teens my first centrefire rifle was a .308 Winchester and among my favourite all-round hunting rifles are a .338 Win

Mag, 8mm Rem Mag and .300 Weatherby Magnum. I don't use my .458 Lott much these days but have one of those as well.

Truth is I've never really noticed recoil in the field. For sure it's there, just not recalled in the moment of the hunt. Yet the same can't be said if you lock yourself down to a bench for an afternoon of load development with any heavy hitter, in which case you'll quickly find the novelty wears off as you develop and start fighting the inevitable flinch. With the Caldwell Lead Sled you can forget felt recoil completely and focus on target alignment and trigger release.

In my capacity as a gun writer I've always felt if I can remove as many variables while testing it's going to help provide the fairest representation of the product under review. The Caldwell not only gives me a solid repeatable rest but removes felt recoil all but completely, these factors combined going a long way towards achieving this objective.

The Caldwell also saves me ammunition when sighting-in rifles. In reviewing firearms, scope fitting and alignment is a regular occurrence and my preferred sighting method is to first bore sight and

once I have a single round on paper to simply adjust the cross-hairs to align with the point of impact.

The theory of this method was covered in the April 2020 edition of *Australian Shooter* in an article by fellow writer Mike Smith. This method has you sighted-in with the bare minimum expenditure of ammunition, as little as two or three rounds, most critical is the stability of the rifle during scope adjustment. It must remain completely fixed in position as the cross-hairs are adjusted to the point of impact and, as the Caldwell Lead Sled supports the rifle both front and rear, the gun remains stable and allows for quick and effective sighting-in.

But with the arrival of modern chassis-style rifles with MSR-style pistol grips, I often find those grips can impact on the main centre frame bar of my old lead sled. Rifles with long single stack magazines would have the same issue, like my Remington 700 Police with Wyatt bottom metal and long single-column 10-round mags, while lever-actions need to be tilted or lifted out of the rest to cycle. Likewise, being a licensed dealer for prohibited firearms sometimes has me testing category



## Caldwell Lead Sled tames curse of recoil

'D' guns with high-capacity magazines which simply won't fit in the sled.

With my existing sled being more than 10 years old I wasn't surprised to hear Caldwell had revised and improved the Lead Sled and extended the options to include a dual frame version which would cure all my issues. Caldwell distributor Nioa sent me the latest version Lead Sled DFT 2 for review.

Having assembled the DFT 2 I was impressed by multiple improvements over the original version I'd been using all these years, main point of difference being the Dual Frame Technology (DFT) whose design specifically allows the use of firearms with long magazines and pistol grips. Starting at the front, the whole forward cradle and support assemble tracks forward and aft along the dual rails, to adjust for firearms of different length, with a total adjustment range of 18" (457mm). This was fixed on the original Lead Sled and meant in some cases, with shorter carbines for instance, you might end up with the front of your rifle supported by the barrel in the rest as opposed to the fore-end, hardly ideal.

The fore-end cradle used to comprise a mini front bag fixed with Velcro but is now a recoil-absorbing rubberised cradle with horizontal adjustment knob for 2½" (64mm) adjustment which actually extrapolates to 27ft at 100 yards (8.23m at 90m). It also has a rubber strap which can be used to lock down the fore-end for rifles with excessive muzzle lift.

The main height adjustment wheel has been increased in diameter and shaft lock extended, both improvements making height adjustment more user friendly than the old system. Below the frame is the improved weight tray which can hold up to 100lb (about 45kg), Caldwell producing purpose-made weight bags to hold lead, sand or other heavy medium to sit in the tray. When I bought my old sled, I had a mate who was a trimmer make me half a dozen small bags filled with lead shot which have been ideal. I've heard of others using fitness weights or even old window weights for this.

At the rear of the DFT 2 is a new adjustment knob for the back foot, previously a bolt and nut locked up with a spanner and not readily adjustable. Again, this gives a finer level of adjustment across the total system. The rifle buttrest or rear cradle now has a recoil absorbing pad which holds your buttstock securely, the rear exterior of the cradle also padded where you might rest your shoulder. The loading effect of weight in the tray combined with

recoil absorbing pad in the cradle made for claimed felt recoil reduction of 95 per cent.

Using the Caldwell Lead Sled has only ever shown upside but some considerations must be thought through. Firstly, just because recoil can't be felt doesn't mean it's not there, the reality being it still exists but has been absorbed and mitigated through the rest and rifle. Some older firearm stocks were never engineered to absorb all recoil energy produced on firing, rather to roll with the shooter under recoil. This is especially so with older large calibre dangerous game rifles which are generally regulated using a standing rest.

Newton's first law of physics states to every reaction there's an equal but opposite reaction, so technically if you have 6000ft-lb of energy leaving the muzzle forward, you have an equal force in momentum moving backwards. Rearward momentum is absorbed and disbursed in recoil but if all this reward momentum comes to a complete stop, something might fail at the weakest point. I only ever load enough weight on the sled to adequately mitigate the recoil present, and modern stocks with effective recoil pads and the new recoil absorbing cradle on the DFT 2 also reduce the effect.

The only other consideration to keep in mind is manual handling of lead if used as the ballast. Again, once contained in a rest bag or similar there's little chance of contamination, especially if a proper handling regime is maintained with hand washing etc. For me, the DFT 2 has overcome the few issues I had with my older sled when reviewing some firearm designs so, all in all, the Caldwell Lead Sled DFT 2 is a great thing made better.

My original has given great service over many years and been an integral part of my testing equipment. In researching for this review the DFT 2 is but one of many rest options offered by Caldwell who have a huge variety of quality benchrests, sleds, bags and other gear. More on Caldwell products at [nioa.com.au](http://nioa.com.au) and follow the links. ●



The cradle and support assemble tracks forward and aft along dual rails to adjust for firearms of different length and design.



Unlike other lead sled models the dual frame DFT 2 allows for cycling of lever-action firearms.



The DFT 2 provides magazine clearance for rifles like Daniel's Remington 700 Police with Wyatt bottom metal and 10-round mag.



Once lined up, the lower knob locks the vertical adjustment wheel shaft to prevent accidental movement.



On the DFT 2 the rear foot is adjustable via a large easy-to-use turn knob for vertical adjustment.

# Recreational shooters and feral cat management

Tida Nou

The broad scale and effective management of feral cats presents a formidable challenge and, as recreational shooters are aware, feral cat management is divisive and frequently emotive. There's no simple solution for managing these highly efficient introduced predators which are a major threat to native wildlife. Shooting feral cats can be a humane method of control when undertaken by experienced, skilled and responsible shooters, providing the cat can be clearly seen and is within range for correct shot placement and the appropriate firearm and ammunition is used.

The Sporting Shooters' Association of Australia manage pest control programs which include feral cat constraints, with the SSAA Farmer Assist program and

Conservation and Wildlife Management (CWM) branches operating across Australia. Members use their skills to assist in the management of feral animals and conservation efforts for native wildlife.

The Farmer Assist program provides an online portal to enable individual landholders or managers to access accredited members to conduct pest control activities on their properties across all states and territories. CWM branches (NSW, Qld, SA, Vic, WA) have agreements in place with state government departments to assist in pest management programs. Some of these programs include targeted cat culls in areas with threatened species populations such as the greater bilby at Astrebla National Park (Qld), bridled nail-tailed wallaby in Taunton National Park (Qld), and released western



**Lunchtime:** A marauding feral cat takes a pale-headed rosella.

**Table 1: Summary of hunting regulations relating to cats in each jurisdiction. Source: SSAA**  
\*The state government may engage accredited volunteer shooters to participate in pest control programs on public land.

State/territory	Are cats a declared pest animal under state/territory legislation?	Hunting of feral cats on private land (with landholder permission)	Hunting of feral cats on public land
<b>Australian Capital Territory</b>	No	Yes No permit required.	No
<b>New South Wales</b>	No	Yes No permit required.	Yes - in some areas. Feral cats may be hunted on declared public hunting lands (350 state forests) with appropriate licence.
<b>Northern Territory</b>	Yes	Yes No permit required. A permit from the relevant land council/ Traditional Owners is required for hunting on Indigenous land.	Yes - in two areas. Feral cats may be hunted in Middle Arm and Howard Springs with permit.
<b>Queensland</b>	Yes	Yes. No permit required.	No*
<b>South Australia</b>	Yes	Yes Hunting permit required.	No*
<b>Tasmania</b>	No	No While hunting of classified feral animals can be undertaken, this does not include cats, which are not classified as pests.	No
<b>Victoria</b>	Yes on specified Crown land.	No Feral cats have not been declared an established pest on private land. Farmers and other private landholders will not be required to control feral cats.	No*
<b>Western Australia</b>	Yes - unassigned control (no obligation for individuals/agencies to undertake management of feral cats).	Yes No permit required.	No*



# Recreational shooters and feral cat management

quolls in Ikara-Flinders National Park (SA).

The regulations on shooting of feral cats varies between jurisdictions, partly depending on whether they're listed as a pest species in relevant legislation (Table 1). Note that legislation and regulation is subject to change and this table does not apply to built-up areas.

There are some disadvantages associated with the use of shooting in the management of feral cats. It's time-consuming, usually has a low rate of success and is expensive if conducted by paid staff or contractors, though the use of voluntary recreational shooters provides the opportunity to eliminate the cost of activities. Shooting is mainly suitable for open habitats. It's essential to maintain and monitor efforts for cat constraints but the more that are removed, the harder detection, monitoring and management become.

There's the added complication of movements between dumped pet cats becoming strays and those strays turning feral, all capable of moving significant distances. We know recreational shooters are already using available tools to increase detectability of cats - such as thermal cameras - and encourage shooters to continue exploring ways to better detect feral cats in our vast landscapes and share these learnings. Monitoring the impact of cat control programs is essential as cats are known to re-occupy areas where density has been

reduced rapidly, so control must be substantial and sustained to be effective. However, monitoring cat density is notoriously difficult as cats are cryptic, usually occur at low densities and have large home ranges.

Spotlight surveys, carried out regularly and consistently are one relatively simple method to track changes in cat activity over time. The most useful monitoring techniques are those which can identify individual feral cats, which help achieve robust estimates of abundance and assess the efficacy of feral cat control programs, but these often entail greater cost and access to specialist technology (Table 2).

Skilled shooters can play an important role in feral cat management. Recent research shows many native mammal species are particularly imperilled by cat predation, the native mammal species at highest risk from cats including bandicoots, native rodents and mulgaras. A priority for these species is to intensively control cats at key sites which may comprise a mix of shooting, trapping and poison baiting (depending on site conditions).

As well as reducing cat densities in targeted areas, skilled shooters have crucial functions in cat eradication projects - during the final stages of eliminating cats from islands or from within fenced areas, an array of cat control approaches must be used, including shooting.

We have improving knowledge and tools

to guide the best times and places for cat control. For example, we know feral cats will travel to a fire front to hunt native survivors, so cat control after such events can help support native populations recover. We now have a much clearer picture of which birds, mammals and reptiles are at greatest risk of predation by cats and therefore where cat control could be carried out to benefit the most vulnerable species.

There's a growing track record of successful eradications of cats from islands and construction of mainland fenced areas which exclude them. The increasing body of information can help us be more prepared and responsive in working collaboratively to implement strategic and targeted management of feral cats.

There will still be much work needed to improve the management of feral cats in Australia. Recreational shooters can participate in local Conservation Management SSAA CWM groups and work with governments and land managers in the targeted control of introduced predators. Monitoring and communicating the impacts of these actions is essential and helps drive management practices for this threat to native wildlife.

Acknowledgements: Many thanks to Matthew Godson (SSAA National Leader Wildlife Programs) and members of SSAA Conservation and Wildlife branches around Australia who provided information on state programs.

• Tida Nou is a project officer at the Threatened Species Recovery Hub.

Table 2: Methods for monitoring feral cat abundance

Technique	Advantages	Disadvantages
Camera 'traps'.	Can partly overcome the constraints of remote areas, challenging climates, low population density and cryptic behaviour. Eliminate 'human interaction' elements, including aversion or avoidance of human presence. Larger capture field compared to other methods.	Substantial set-up cost, require maintenance, risk of theft, time-consuming and resource intensive to go through images.
Hair snares - where feral cats are attracted to and leave hairs on wooden stakes sprayed with cat urine.	Possibility of extracting DNA from hair samples to identify cats or related individuals.	Time-consuming, logistically challenging in many circumstances, expensive, unlikely to provide reliable population trends.
Trained detection dogs.	Allows for targeted detection of feral cats where they occur at low population densities.	Limited availability of trained detection dogs which requires dedicated and ongoing resourcing for training and care. Dogs work more effectively in particular habitats.
Sand plots (smoothed areas of sand which register footprints of passing wildlife).	Relatively simple and can record elusive species which may not be detected by other methods. Selection of appropriate sites is important (cat activity appears greatest along creek lines).	Wet weather, wind and vehicle tracks can affect data collection, longer sampling periods may be required.
Spotlight surveys/catch per unit effort.	Can be used in all types of landscapes, relatively simple and inexpensive.	Less efficient than other methods in most habitats for detecting cats, doesn't allow for identification of individual cats, may significantly underestimate activity or population size. Variation in weather, moon phase and vegetation cover can affect interpretation of data.

## Member profile: Steve Llewellyn, Vic

### How long have you been a recreational shooter?

I've been a recreational shooter for about 35 years and a commercial shooter for 15 years.

### Why do you hunt cats?

I target a range of pests which impact on biodiversity and feral cats specifically contribute to a decline in those values. I feel an obligation and duty to apply my skills and knowledge to reduce the impact of feral cats. As cats have not evolved on our land, their presence has profound and lasting effects and I want to do my bit to help our unique wildlife. In the areas I typically hunt, feral cats (as with other exotic pests) prey on small to medium animals, the majority of those vital to forest ecology, playing a huge role in nutrient cycling and underpinning food webs.

### What benefits have you seen on your property from controlling cats?

I have a 600-acre property in the Southern Highlands near Dargo, Victoria. Since 2000, I've been targeting feral cats on the property and adjacent state forest in a bid to restore forest ecology and food web dynamics. The greatest notable increases in wildlife have been young goannas, long-nosed and southern brown bandicoots, bee-eaters and lyre birds.

### If a shooter was thinking about targeting cats for the first time, what advice would you give?

Study your target well and know your target's ecology and characteristics (eye shine colour). Do your background check about where to hunt, become involved in community pest efforts, network with clubs and

associations such as Landcare and SSAA to enable

access to properties. Learn to read tracks and scats, set up trail cameras, build a knowledge profile of the cats' routine and be on their path before they are.

### Are there any programs to join?

Within the SSAA there are groups of shooters dedicated to the preservation of native Australian species. Conservation & Wildlife Management branch members use their shooting skills to assist in the preservation of native animals and control or eradication of feral species. All around Australia the SSAA has programs to assist farmers and other land management groups including government departments. Details are on their website. ●



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# SSAA COMPETITION NEWS

## Field Rifle, 3P, Scoped Air Rifle and NRA Any Sight National Championships

March 31-April 5, 2021

SSAA Majura Range, Hector McIntosh Grove, ACT

See National website for full event details.

Contact: Josephine King 0424 292 115 or Matt Rogaloff 0410 895 815.

## Handgun Metallic Silhouette National Postal Shoot

March 1-May 31, 2021

Various locations

Big Bore, Small Bore and Field Pistol. IHMAS rules.

Contact: Russell Mowles 0418 819 945.

## SSAA Rifle Metallic Silhouette National Championships

April 1-7, 2021

Eagle Park Range, Little River, Victoria

See National website for full event details.

Contact: Mark Butler 0409 135 740.

## Benchrest Group National Championships

April 1-5, 2021

Jarrahdale Sporting Shooters, WA

See National website for full event details.

Contact: Trevor 0417 085 528 or email benchrestwa@iinet.net.au

## SSAA Gallery Rifle National Championships

July 17-28, 2021

SSAA Para, Rifle Range Rd, Greenwith, SA

See National website for full event details.

Contact: Don Robinson 0428 986 070 or Dave McCarthy 0414 880 333.

## Benchrest Score National Championships

September 3-7, 2021

Dairyville Range, Coffs Harbour, WA

See National website for full event details.

Contact: Ray Munro 0408 649 126 or email: r.munro@internode.on.net

## Qld IRB and Rimfire Benchrest Group National Championships

September 30-October 4, 2021

Springsure Sporting Shooters, Qld

See National website for full event details.

Contact: Gavin Marshal 0438 759 162.

## SSAA (Qld) Gallery Rifle State Championships

April 17-18, 2021

Hervey Range Shooting Complex, Qld

See National website for full event details.

Contact: Don Robinson 0428 986 070 or Dave Mitchell 0476 058 893.

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## SSAA Member Alert

Please be aware that state and territory police firearms registries regularly cross-check firearm licences and your member status. To support your genuine reason and keep your firearms licence and to make sure that SSAA can support you, make sure you renew your SSAA membership.

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For your chance to win one of these competitions, write your name, address, phone number and membership number on a piece of paper and place it inside an envelope, along with the name of the competition on the front of the envelope, as shown in the example. Alternatively, you can enter online.

Competitions close February 28, 2021

(Name of competition)  
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### Australian Shooter November 2020

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#### Winchester pistol case

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## Looking back . . . and moving on

Although it's February as you read this it's late October as I write, and last night we had a thunderstorm that shook the house, brought Dixie scuttling inside for moral support and dumped another 25mm of rain on an already sodden landscape.

This morning the water tanks are overflowing and the creek across the road a roaring torrent. There are wood ducks grazing outside the fence and in the puddle of water we call 'Lake Roller Door' near the back of the shed, a pair of black ducks is dabbling for worms. The dog is watching them, disinclined to give chase as she's already been out for a run and, like the rest of us, is sick and tired of wet feet. For all of that the rain is more than welcome - a diametric change to the way things were this time last year.

It would be easy to look back at the year that was 2020 and write it off as an unmitigated disaster. For so many individuals and communities - and the environment affected by the bushfire crisis on the eastern seaboard of our nation in those early months - that's exactly what it was. Like so many other places, our little part of the world was turned on its head by those fires. We were fortunate to come through it unscathed but many of our friends will carry the scars of the experience for years. Shaken by it all, we retreated to the relative safety of town - a bittersweet move as inevitable as the fires that brought about the change. We've no regrets - life is much

less hectic in my second bite at retirement.

Then just as we were all starting to believe things couldn't get much worse, along came the Coronavirus pandemic to throw its spanner in the works and shake

the Snowy Mountains over to Adaminaby on the Monaro side to pick up the Canberra grandkids for a few days' stay during their school holidays. To get there we travelled through substantially more than 100kms of

country charred almost beyond recognition, then had to come back the same way. It's a trip I'd been avoiding and was not a pleasant experience.

Most of the trees that remain are alive and frilled with epicormic growth but, by and large, there are very few obvious understorey plants and the loss of old growth habitat trees has been enormous. The Kiandra plains country hit me hardest, historic buildings destroyed, the former sea of rippling

snow grass tussocks reduced to crumbling black stumps, standing stark against stringers of late winter snow in a burnt-to-a-crisp landscape showing early signs of recovery I doubt will be completed in my lifetime.

The overall impact on wildlife doesn't bear contemplation and I came home pretty much convinced I don't really want to go that way again, I'd rather remember it the way it was when I lived and worked there all those years ago. In spite of that, I'm looking forward to 2021 and a return to at least a facsimile of what we used to call normal. It's time to move on, mindful of where we've recently been yet focused on what lies ahead. There's no other option.

• *In the Footsteps of my Father* is available to order online by emailing [footsteps5350@gmail.com](mailto:footsteps5350@gmail.com)



Kiandra Plains - once a sea of rippling snowgrass tussocks, now almost unrecognisable and, inset, charred trees frilled with epicormic growth at the start of a recovery that may well take a lifetime.

the world to its core. If you ignore the sad, unprecedented subsidence of our national cohesion into 'my state' politics and policies, Australia emerged fairly well and for that we should be truly grateful, even if our way of life will never be the same again.

On a personal level it trashed our travel plans for the year and my hunting efforts dwindled to non-existent. Needing other ways to keep ourselves amused, organised and positive, we spent a lot of time setting things up the way we wanted them at the new place we now refer to as 'The Retreat'. I put a lot of time into the workshop and after years of threatening to do so, am now producing some useful knives I'm rather pleased with. In among the changes I also published another book - *In the Footsteps of My Father* - which has been selling well.

A few weeks ago the good lady and I drove from Tumut on the western side of

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