

# Thames Valley Guns

## Armourers Report

### Ruger No. 1 - Part 3

#### Introduction

Once again I struggled to identify this model of rifle, and therefore I purchased the rifle for what I wanted to do with it, rather than the model type. I purchased this Ruger No. 1 for a number of reasons, the ultimate plan was to re-barrel in .303, more about that later. Next was to evaluate a No. 1 with a Alexander Henry forend and lastly to analyse the 25.06 cartridge which I had absolute no experience off as it was neither a military or target round.

A long term project of mine and initially nothing to do with Ruger No 1's was to build an accurate .303 rifle and to find out what the .303 cartridge was ultimately capable of in terms of accuracy. Everything in the UK, in .303 calibre is built around the Lee Enfield action and being a military receiver, accuracy is acceptable but not amazing. I was struggling to find a suitable donor rifle until a fellow Armourer suggested a Ruger No. 1. This project was going to be a long one,



probably the best part of a year, if not more as the heavy .303 Bartlein barrel had to be ordered from the USA and the next batch was not being ordered till the latter part of the year. Therefore to fill the time gap, I planned to produce a more informative Armourers report and report my experiences with the 25.06.

So what model is this rifle? The muzzle has been threaded, so the 24" barrel is now 23" and had a foresight been machined off to accommodate the moderator? I doubt it, because there is no rearsight in the quarter rib. Researching further, indicated most rifles in this configuration had a beavertail forend, in which case, this rifle would be a Ruger No. 1B standard, however this rifle has Alexander Henry forend which confused me. At one stage I thought the rifle may be a No. 1-AH, but these rifles were produced in 2006 and this is a 1998 gun, so back to square one. Despite continuing research I could not highlight any more clues, so in the end I will settle for a Ruger No. 1B standard.

Obvious differences with this rifle compared to the other rifle I've discussed in my reports was the barrel sling swivel band and the Alexander Henry (AH) forend. The AH forend is a fraction over 10" in length, compared with the beavertail at 13" and when you reduce AH forend still further to 8½" because of the forend notch there is no space for a QD stud, hence why it is mounted on the barrel. Personally I dislike barrel mounted sling swivel bands and as I had no need for the swivel on this rifle, I removed it.

Reading the Internet forums highlights a love/hate relationship with the AH forend. Personally I have no view at all on this type of forend from a hunting rifle point of view. However as I wanted to build an accurate rifle, this type of forend has no interest for me as I prefer the beaver tail. I was curious as to what the forend notch was for. Ruger do not seem to have an official description and there were various suggestions on the Internet. The suggestion that I thought might be the most accurate was that the forend notch was used on old rifles to create a place to securely tie a rifle to a vertical gun rack in a wagon.

#### General

The No. 1B standard is a traditional hunting rifle with a short AH forend and a standard barrel. Produced in 1998, the barrel is normally 24.0" long, but has been reduced to 23" to provide sufficient diameter, so the barrel can be threaded for a moderator. Barrel dimensions are 1.2" at the chamber, narrowing to 0.67" at the muzzle.

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The rifle is fitted with checkered walnut furniture and a Alexander Henry forend which provides for short handling. This has been made worse, as the previous owner has shortened the butt by 2.0", which means I have to fit a large butt plate to overcome this loss of length. You cannot fit a bipod as the AH forend is too short and therefore there is no provision for a QD stud. There are no iron sights fitted and the barrel is fitted with a quarter rib and provided with blued Ruger rings. The rifle weighs 9.33 lbs with a traditional scope, has an overall length of 38.5" and a trigger pull of 4.87 lbs. With the reduced barrel, butt and forend length, I expected less overall weight.

As I planned, initially to evaluate the rifle in its standard format, the initial scope of choice was a classic Redfield 4-18x50 but I found some lens damage and therefore replaced it with a Schmidt & Bender x6 which was ideal for 100



yard accuracy testing. I also replaced the terrible Ruger rings with Warne vertical split rings, which I regard as the best available in the UK. The best rings for the No. 1 are produced by Leupold but none were available in the UK at the time, which turned out to be a good thing cost wise as I will explain later.



#### Restoration

Unlike the stainless steel model, I reported on in my Armourers report Ruger No. 1 Part 2, the external and internal condition of this rifle was good. The rifle required a deep clean and a major service, but fortunately nothing else. One thing that the major service did highlight was the butt had been cut short. The work had been done well and it was not apparent at first, until I realised the rear sling swivel was a little too close to the recoil pad than would be normal, which was a valuable lesson. As I ultimately planned to re-barrel this rifle and improve the rifle's accuracy, I planned to replace the AH forend with a beavertail model. The fact that the butt was short by 2.0" meant that I had to install a larger recoil pad to recover that lost two inches. As can be seen in the images, I fitted an adjustable recoil pad, polished the metal components and refinished the butt giving it a more glossy finish. The end result was quite pleasing as can be seen below.



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#### Reloading the 25.06 cartridge

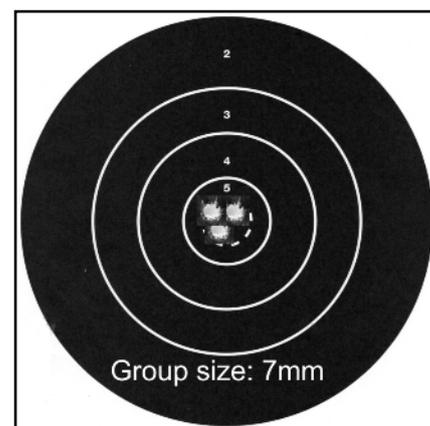
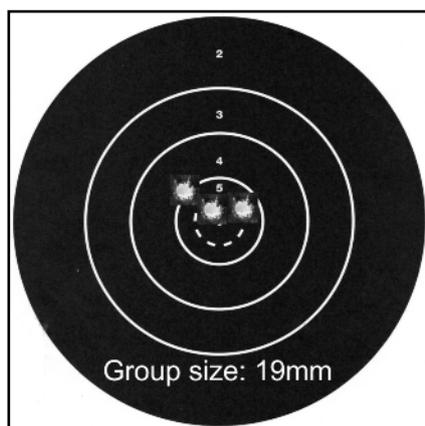
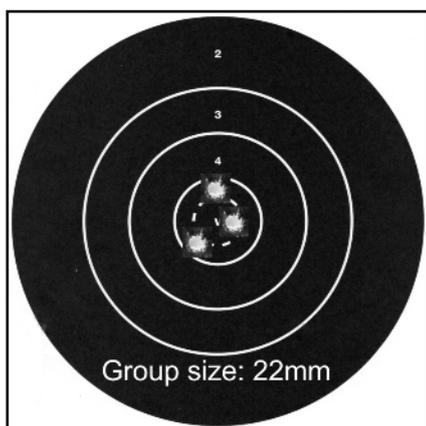
Although I planned to re-barrel this rifle, this was a golden opportunity to learn about the 25.06 cartridge as I had never encountered this cartridge before. I had some experience with the 30.06 and the Springfield 1903 Sniper variants. To be fair, it is hard to appraise the accuracy of the 30.06 cartridge in military rifle. If the sniper rifle shot 1" to 2" groups at 100 yards, I was pleased, however one minor criticism was that the cartridge had a reasonable level of felt recoil, but again this was with military rifles that had steel butt plates.



Because I was going to change the calibre of this rifle, I felt that the reloading costs should be kept to a minimum. Not the best way forward to identify the rifles accuracy, but to purchase Norma brass was somewhat of a waste if I was only going to reload once or twice. Therefore, as fifty rounds of PPU brass and a set of Lee dies were provided with the rifle, that was a path I intended to follow. The hunting bullets that were provided with the rifle were dispensed with and replaced with Sierra 100gr Matchkings and after some research, Vihtavuori N160 was chosen together with CCI standard large rifle primers.

The PPU website states that factory 100gr 25.06 ammunition has a velocity of 3215 fps which in most reloading manuals reflects the maximum load. Maximum velocities are of no interest to me, I do not drive a car down the motorway at a 100 mph so why do I want to treat my rifle in the same manner.

Choosing a suitable powder range for mid range velocities was not as easy as things first appeared. Vihtavuori powder choice ranges from N140 to N170 in the Vihtavuori manual and with American manuals listing N150 to N165, hence my choice of N160. Choice of powder range was somewhat confusing with the Vihtavuori manual listing 50.0gr as the starting load and the Sierra manual listing 41gr, with both generating a velocity of 2900 fps. Not sure how Sierra worked that one out??? However, both manuals agreed 52gr as the maximum load and therefore I loaded nine strings of five from 48 - 52 grains.



#### Initial Range Test in 25.06

Like the earlier Ruger .243 No. 1 that I tested in my Ruger No1-Pt2 report. Testing this rifle in 25.06 provided another opportunity, where I could analysis a Ruger No. 1B with a standard barrel in 25.06.

The initial range test consisted of zeroing and chronographing. Shooting seated and supported, I chronographed nine strings with 48.5 grains being the best, with an extreme spread of 28 fps. Group sizes varied from 22mm to 7mm. Lower velocities between 2828 to 2872 produced the smaller 7-8mm groups and the higher velocities produced the larger groups, varying between 19 and 22mm. Bearing in mind this exercise was to zero, chronograph and checkout the AH forend, the 7mm groups were quiet impressive for a hunting rifle.

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I must admit, I had my reservations about the AH forend and the 25.06 cartridge, plus in my efforts to save money my reloading components were not of the highest quality. However although this wasn't an accuracy test, early results were proving both the AH forend and the 25.06 to be very capable.

#### Modifications

If you recall at the beginning of this report, my initial plan was to use this rifle as a donor for my .303 conversion project, however this early but impressive accuracy potential of both the Ruger No. 1 and the 25.06 cartridge had given me second thoughts and maybe I should leave this rifle as a 25.06 calibre rifle.



When I purchased the 25.06 it had been threaded for a moderator. If I was going to keep this rifle, then the barrel would have to be crowned properly. As accuracy was my principle factor, I planned to replace the AH forend with a beavertail. In the UK there are no Ruger No. 1 spares, at least none that I am aware of. Initially I was going to get a beavertail forend manufactured but in the end, my barrel smith had a spare and we did a swap.



Despite needing a complete restoration, the replacement beavertail had been modified to permit the barrel to float. This was the first time I had seen this attempted and the workmanship was quite poor. Therefore as part of the restoration process I re-bedded it myself. I had considered returning the forend to its original format with the barrel seating on the forend tip, but I was curious to see if this worked, and the only way to do that, was to accuracy test and see if the rifle could match or improve on the earlier shoot.

#### Final Range Test

As I was now planning to keep the 25.06, I replaced the temporary S&B with a classic Weaver T16, that would suit my focus on improving accuracy. With the re-crowning, the barrel had been reduced to 22" which was acceptable but I would have preferred the original length of twenty four inches.

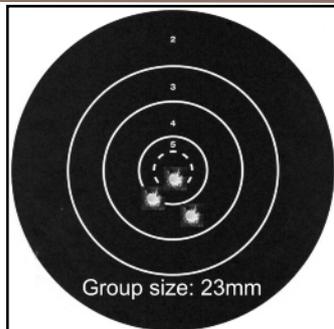
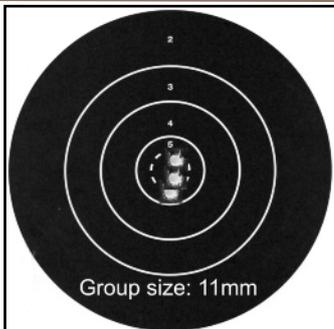
I replaced the original PPU brass with Hornady, retained the 100gr Sierra Matchking's and reloaded with 48.5grs of N160 and headed off to the range.



The detail would be exactly the same as the previous shoot, with the first few rounds being used to zero and then followed up with a number of accuracy groups being shot from the bench and a bench rest.

I had some concerns because the rifle had been altered from its original configuration, barrel was slightly shorter, the A/H forend had been replaced by a beavertail and the barrel had been floated.

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The next accuracy test was carried out exactly the same as the earlier shoot with the only difference being a cold and wet day. However groups were marginally larger, which may indicate that the "floating barrel" does not suit the No.1 or my shooting was less effective in poorer weather. I will shoot the rifle again in the near future, but if the trend continues with larger groups, then I would suggest the floating barrel setup does not improve the rifles performance as some people may think.



## Summary

I purchased the Ruger No. 1 25.06 as a donor rifle because I wanted a Ruger No. 1 in .303. As this rifle originally had an Alexander Henry forend, I wanted to evaluate the forend as the feedback from the Internet, indicated a love/hate relationship with shooters. Whilst my rifles are not for hunting and my experience with this rifle was limited to gallery range work, I found the AH forend and its reduced dimensions, to reduce the rifle's weight and accuracy was very good.

Although I don't mind the AH forend, my personal preference is towards the beavertail. Weight is an asset for my type of shooting and the extra length not only looks better but is more practical for shooting from a bench and a bench rest. To date all my Ruger No. 1's utilise a beavertail forend and the barrel rests on the tip, which is the way the rifle is designed to shoot. This was the first time I shot a No. 1 with a floating barrel and I found my early concerns to be warranted as the rifle shot well but with fractionally larger groups. However, I am not saying this is an accuracy improving solution, it depends on the quality of the work, barrel channel clearance, the type and length of bedding used. Ultimately this forend configuration did not match the accuracy involved in the earlier shoot.

Historically I always regarded the 25.06 as a hunting cartridge and consequently I never gave this round much thought during my shooting career as I always shot military or target cartridges. I took the cartridge on-board simply because I planned to re-barrel this No. 1 into another calibre. However, this "accidental" experience has changed my views completely and for the better. 7mm or 11mm groups are impressive, I have shot numerous .308 sniper and target rifles that struggle to obtain that group size at 100 yards, so from a hunting rifle with a standard barrel, I see that as pretty good performance.

Reloading the 25.06 was an interesting experience as I hadn't reloaded a "new" cartridge for years, I didn't put a huge amount into its development but enough to get some impressive results. For "paper punching" bullet choice is limited in the UK to Sierra 100gr Matchkings and Hornady/Nosler brass, which is a shame. Carrying out further research, even

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in the US the cartridge suffers from limited bullet choice. The 25.06 has been around a long time but has lacked that meteoric rise to fame that the .270 and more recently, the 6.5 Creedmore has experienced and as a result appears to be a highly underrated cartridge, with mild recoil, very flat shooting trajectories and great accuracy.

As readers may note, rifles coming onto the market in recent years, do so with a plethora of aftermarket accessories, such as metal components replacing plastic, cheap stocks replaced by more expensive models, improved mounts and the list goes on and on, with this being apparent on all of Ruger's new rifles. When I was a young Armourer in training, my instructor at the time stated that new rifles are rarely perfect upon release and it is normal to see a series of modifications/improvements being released in the ensuing years. The more the modifications the less perfect the rifle was at its release. Whilst there is far more to this subject than the few lines I have mentioned, it should be noted that there are very few aftermarket accessories for the No. 1, which is a good indication that Bill Ruger got it right first time.

Besides a major service, restoring the woodwork and repairing the shortened butt I have done little to this rifle, yet its nice wood and elegant lines make this rifle a pleasure to own.

Paul Green  
Thames Valley Guns  
[www.thamesvalleyguns.co.uk](http://www.thamesvalleyguns.co.uk)  
Email: paul.tvg@ntlworld.com

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