Introduction
When I first saw these rifles on a stand at the Phoenix show at Bisley, England 2010 I was intrigued because I like rifles which are different. I love classic rifles but they have to be something out of the ordinary and that's why I own rifles such as the Charger Loading Lee Enfield and a Boar Mauser. The Springfield 1903A4 was a rifle that had been rebuilt with many new parts, barrel, woodwork, replica scope and at a price, which although expensive was considerably cheaper than an original.

One of the most attractive features of this rifle was it was ideal to semi customise. If this rifle was an original I couldn't alter it as this would ruin its historical status and value. However the only original parts on these rifles were the receiver, bolt and various small parts that were clearly made up from spares.

When I write these articles I compile them in the same timeline as my project, therefore my observations are as I discover them and I make no apologies for the accuracy of my comments. I am an experienced Armourer and therefore I state my findings as I discover them.

The original Rifle
If the internet is to be believed this rifle emanated from the UK as standard 1903A3 rifles when Gibbs acquired the British company, Parker Hale Ltd in the 1990's.

Gibbs appears to have gone from strength to strength and over the years have converted/improved a number of classic rifles with the Springfield 1903A4 Sniper being their latest efforts

Armourers prospective
According to Gibbs they have rebuilt over a 1000 standard 1903A3 rifles into the A4 Sniper configuration. The rifles have new woodwork, barrel, scope base, scope rings and a new replica Weaver M73B1 scope and these parts are marked with Gibbs own markings thereby avoiding unscrupulous dealers trying to sell these rifles on as originals. For more details on this rifle visit Gibbs website at:

http://www.gibbsrifle.com/1903-a4_sniper_rifle.html

Inspection
When I received the rifle the first part of this project was to inspect the rifle and identify a standard from which to work and improve from. The following faults were found:

1. Rust between the scope rings and the base.
2. The main rear trigger guard screw although tight was only engaging the receiver by three threads; in fact it was short by 8mm. I have since learnt that the screw was from a Krag
3. Both scope base screws were loose and the rear one was starting to strip.
4. The rear mount for the scope base on the rifles receiver was heavily burred. As a result the scope base would not seat correctly and probably why the screw thread was starting to strip.
5. The scope base has not been machined correctly and will not seat flush against the receiver.

6. The ocular lens on the scope was loose and was rattling about.
7. Lens quality is very poor with considerable picture distortion.
8. Windage drums on the scope have been fitted incorrectly. This was stated by Gibbs.
9. The phosphate finish makes the cycling of the bolt appear rough. This will improve with use.

Range Test

After carrying out some repairs, I wanted to perform a function test of the rifle, zero the scope, enjoy shooting my new purchase and to generally see how the rifle performed.

Initially the range test went very well, the scope zeroed easily enough, held its zero and the scope didn't move in its mounts. The rifle fed, extracted and ejected without fault.

The first obvious fault to appear in this test was the scope lens, whilst I appreciate this is a replica of the Weaver M73B1 scope it is no excuse for the absolute abysmal quality of the lens. Except for the centre of the lens the remainder of the lens picture was completely blurred.

Scope magnification is supposed to be x2.75 but there is no noticeable magnification at all, which is probably due to the poor lens quality.

The rifle shot reasonably well with a 6" group at 200yrds and I shot 50rds without mishap, or so I thought. When I returned to the workshop to clean the rifle and carry out a post range test inspection I found a chunk of wood had fractured off near the rear mounting bolt. In my experience this is caused by recoil and a poorly fitted stock.

In the US these rifles retail for a shade under $1000.00(2011 prices). In the UK at the current exchange rates they retail for $2,315.94.

Whilst I temporarily repaired the stock (see picture above). To return the rifle under warranty to the US from the UK is a non-starter as the cost is prohibitive, so therefore the only cost effective solution is to repair it myself.

Gibbs Rifle Company

I emailed Gibbs concerning the above faults and the following day I received an email from Gibb's President, Val Forgett III with a promise to replace the stock and the scope free of charge. To date, I have not heard or seen anything from the Gibbs Rifle Company.

Barrel

The new barrel is 24" in length, is a four groove replacement for the original and is finished in the same phosphate finish as the receiver. I have little experience with these barrels other than they performance appears satisfactory. So far the rifle has shot reasonable well but this could be improved with a better scope, bedding and a superior trigger.

Scope Base and Rings

The scope base is a replica of the original and is marked with Gibb's logo to avoid any confusion. The rings are well fitted both with the mounting of the scope and to the base. Course adjustment is possible with the two screws at the rear.

My only criticism is the poor fitting of the rear mount. As you can see from the above picture there is a clear gap between the receiver and the base.

Woodwork

First impression of the woodwork is a good one, everything fits well and nothing is loose. However I unsure of the wood type, it is not a good walnut and my experience would indicate it is one of the many hardwood stocks sourced from the East Asia such as China and Vietnam, however I may be wrong, so please don't quote me on that.

The wood machines and finishes reasonably well but appears to be brittle and fractures easily with damage to the tang area as shown in the previous picture and a fracture around the recoil block.

Another minor observation is the considerable number of tooling marks around the butt area.

Scope

Whilst this was a replica of the Weaver M73B1 scope it is the worse rifle scope I've ever encountered, whether it was a one off I do not know. However lens quality even for a replica was dismal, lenses were loose and although Gibbs has stated in the accompanying instructions the windage/elevation drums had been fitted incorrectly.

My only good comment about this scope was that it zeroed easily enough, held its zero and there was no sign of scope creep. Little consolation really and as a result the scope has been added to my scope collection as an example extremely poor quality manufacturing.

Trigger

Trigger was the standard model and no attempt had been made to polish or tune it. As a result trigger pull was approx. 6lbs which is less than ideal for a sniper rifle.

Bolt

This was a standard bolt which had the bolt handle modified as in the 1903A4. It functioned well but operation was rough due to the receivers phosphate finish. The bolt stop had been re-blued but had rust underneath the blueing.

Summary

I when decided to buy this rifle I was quite excited by the fact that this was something different based on the venerable and reliable Springfield rifle. I expected a functional rifle with no faults that would shoot reasonable well. However this was not the case, the rifles quality was poor with one fault or another at every corner. In some ways I am my own worst enemy as my firearms knowledge permits me to see errors that others may not, but if I was a normal shooter I would have certainly considered returning this rifle and requesting a refund.

However this rifle was something different and as an Armourer I have the skills to put matters right. Some may say I'm stupid but it is my intention to stick with this rifle until I get it the way I want it.

Rebuilding a Replica Springfield 1903A4 Sniper Rifle

There was so many things wrong with this rifle it would be better to strip it all down and start again. One advantage of this rifle is that being the US standard infantry rifle there are many options on the market to improve the rifles poor condition and performance. Having said that in the UK things are more difficult as the Springfield is not as prevalent as in the US and although I hate to admit it the Ebay auction site comes in very handy.

Bedding & Trigger Guard Screws

I wanted to bed the rifles mechanism for two reasons, to improve the rifles performance and to improve the woodwork fit to minimise any movement and thus reduce the likelihood of any more fractures.

The bedding process was fairly difficult as the stock was fragile and I didn't want to cause any further damage. Once the bedding process was complete the first thing you notice is a more solid feel to the stock and the rifle as a whole. Another problem that the bedding process identified was how poorly the rifle was seated in the stock initially. The barrel did not touch the wood at all except at the fore end and at the breech end there was 2mm of clearance between the metal and the woodwork.

As a result I had to question the practicability of persevering as I felt I was flogging a dead horse with this stock. A solution presented itself on Ebay in the form of an original unissued Springfield 1903A3 "C stock" from Holland. Whilst it is not a Sniper stock they are identical except for the bolt recess which can be easily remedied.

The new "C Stock" required some fitting but the overall quality was far superior and gave me an added boost that in the end this could be a good and unique rifle.

Another problem that I had identified was the very short rear trigger guard screw. This was because it was the wrong screw, it was the screw for a Krag or an earlier 1903. However it was easily solved as Foster's supply extra-long screw especially for the 1903A3.

Trigger

Timney provide an excellent aftermarket trigger for the Springfield which is factory set at 3lbs but can easily be reduced to 1½lbs. It is easily fitted but does require some modification to the stock to allow it to fit correctly. Another problem is the trigger will not fit through the recess in the trigger guard. Again this is easily solved, I milled mine out but it can be done with a file and a little elbow grease.

Once fitted and for the purpose of safety you should always test cycle the bolt and ensure the trigger cannot release the firing pin.

Scope

The replica M73B1 weaver scope was a major disappointment but even so it amazed me how US Snipers managed with the original scope in the 1940's & 50's. These scopes certainly couldn't compete against the British and German scopes of the same period and in the counter sniper role must have put the US Sniper at a disadvantage against his enemy equivalent.

Replacing the scope with an original was not a consideration as I had no intention of replicating an original Sniper rifle, what I wanted was a 1903A4 with superior performance and for that I needed a better scope. I did have a number of scopes in mind and once again Ebay was the solution. I wanted an American scope, not a modern one but a scope with some vintage and character. Scopes that I was considering were the:

1. Vintage Lyman Alaskan; a far superior scope which was from the same period but still with only a 2.75 magnification; however its tube diameter was 7/8" which permits its use with the rings supplied with this rifle.
2. Vintage Lyman All American; these are scopes from the 1960-70's and are 1" tubes but have x4 or more magnification. They are no longer made which means they are interesting.
3. Vintage Leupold M7; this is a 1960-64 scope with a 1" tube and x4 magnification.

I finished up with two of the above scopes, the Leupold M7 and a Lyman x20 All American Scope. I will experiment with both scopes but the Leupold M7 is particularly apt as it has single post type reticle as typically used in British No32 Sniper scopes and the German equivalents.

The Lyman came from Australia and although it was serviceable, it was in need of a major service. Once cleaned and serviced this was a nice scope and I felt it would complement the 1903A4 nicely.

The M7 came from the US and was good condition except a few external marks. Initially I have decided to fit the Lyman as I like the long scope format. However should it fail or not be suitable I will replace it with the M7.

Scope Base and Rings

Another area for improvement was the scope base. We could machine and improve the base supplied with the rifle but the base utilises 7/8" rings and from what I can see, scopes with this tube diameter seemed to be limited to x2.75 magnification, not exactly the performance enhancing criteria that I required.

Therefore we had to purchase a new base with 1" rings if we were going to improve the rifles optical performance. The solution came from S&K Scope Mounts in the US. I have experienced their products before and have found them to be of good quality and they produced a number of bases for the Springfield and its various models including the 1903A3.

I must point out however that the S&K 1903A3 scope base will not fit this particular rifle unless you remove the handguard. I was aware of this issue and had purposely purchased the base with a view to modifying it in two ways:

1. Remove sufficient metal from the front of the mount to clear the handguard and allow it to be fitted.
2. Drill the front of the mount to match the front mounting screw in the receiver therefore allowing it to be securely mounted to the receiver in a similar manner to the original base.

The S&K base is noticeably higher than the original which is what I also wanted. The reason being was that the replacement scopes had 40mm object lens which was far larger than the original M73B1 of 19mm. This exercise was more difficult than it looked as I didn't have the base or scope at that time and I was doing all my judgements from pictures. However my research paid off as the mount was suitable for both scopes.

Butt Plate

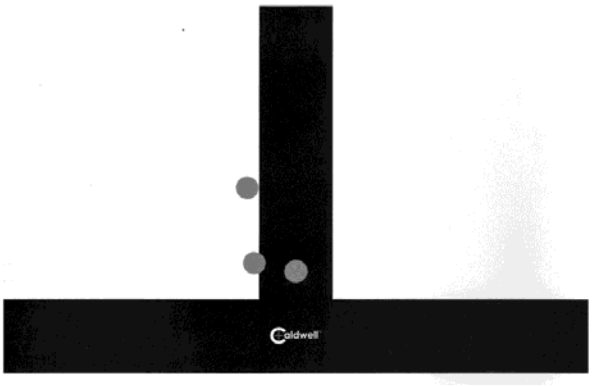
I mentioned earlier in the article that the Springfield had hefty recoil and the original metal butt plate did not ease matters. I have searched the internet looking for an aftermarket replacement butt plates but have achieved little success and have yet to identify a solution.

Springs

As the build quality of this rifle had proved so disappointing, I felt fairly confident that the rifles springs were probably 50-60 years old spares, so I felt it would be a wise decision to replace all the springs with a Wolff spring kit, these spring kits cost only a few pounds and in return you are guaranteed a high level of reliability and peace of mind.

Reloading

An obvious way to improving a rifles accuracy is to reload. I will not go into great detail on this subject as there are many publications available which can offer accurate guidance. I will briefly describe the loading that I utilised.



Once the rifle was complete and before chronographing I zeroed the rifle using standard IMI 30.06 ammunition and achieved a three round of 1.3" at 100yrds. Not bad for this type of rifle and ammunition.

Research indicated that the US utilised a 150gr FMJ bullet and I had no intention of re-inventing the wheel, so therefore I used the Lapua 150gr FMJBT bullet and Hornady 30.06 brass coupled with 51 grains of Vihtavouri N150 powder which produced an average velocity of 2784FPS and a standard deviation of 13

This combination reliably gave me a grouping of 2" at 100yrds and sometimes I had all three rounds touching, however I could not consistently repeat this which was probably attributed to my shooting skills.

Summary
I had owned a Springfield 1903 before and regretted selling it. With this replica 1903A4 I had replaced that regret with what in the end turned out to be a fine rifle. I had clearly spent more on the rifle than it was physically worth, had spent a great deal of work bringing it up to a reasonable standard, which some may say was not the wisest off decisions, but I did have a rifle that I felt was unusual, it shot extremely well and I enjoyed shooting immensely.

As you can see from the pictures above my determination paid off. The replacement stock restored very well and showed no signs of damaged during the initial zeroing exercise. The S&K mount was modified so it would secure direct into the receiver and would allow the upper fore end to be fitted. The Lyman All American scope to date has remained intact as recoil on this rifle for us mild manner Brits is fairly hefty.

Update January 2011
I had the misfortune of this scope taking a chunk out of my eyebrow, how embarrassing, however, eye relief for the Lyman is very short, add some hefty recoil and you have the perfect opportunity to do some bleeding.

At the same time as this experience a Lyman Alaskan came up on Ebay in good condition, together with a Litschert Varmint Master which is increase the power of the scope to x6, this was too much to resist and as a result I acquired the Alaskan which certainly in the Korean war was often fitted to these rifles.

To fit the new scope I required the original Gibbs base and rings only to find more problems. The most obvious was that the Gibbs scope and rings were not 7/8” as per the original scope but were in fact 6/8”, was there anything else that could go wrong. Fortunately the Alaskan came fitted with a set of rings otherwise to put it technically I was buggered.

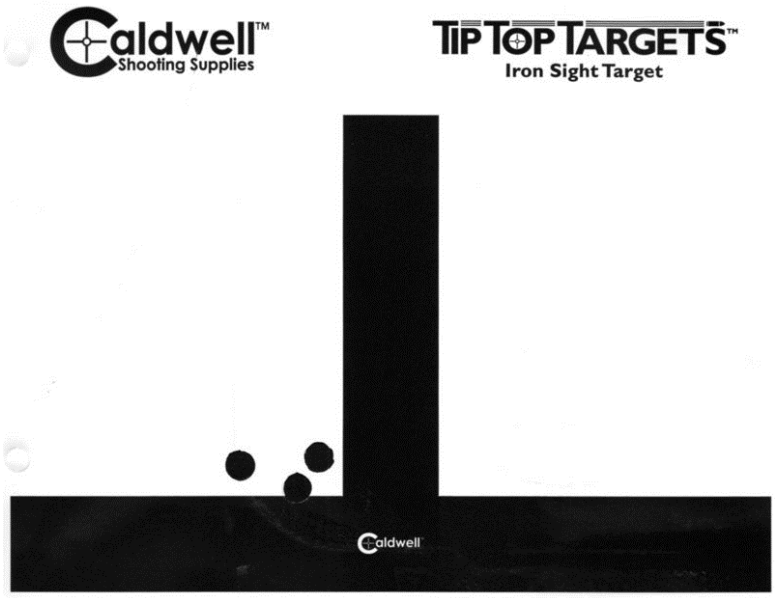
Six months down the line I think it's fair to say that with the exception of the barrel nothing of this rifle is related to Gibbs, the woodwork has been replaced, the scope base has been re-machined and shimmed to fit correctly, trigger, springs, rings and scope have been replaced, in fact although I had no intention of doing this, the rifle is now closer to the original. I have spent more money than I ever planned and I will never recover the investment.

However, repeating what I said in the summary, the rifle shoots well and most of all I enjoy shooting it.

The Alaskan sits well on the rifle, the fine cross hairs with an equally fine dot, the x6 booster are all from the same period, are well made and once serviced functioned flawlessly. It seems a long way from the rifle when I first purchased it .

Update April 2011
As you can see the last update was back in January and it has taken me till April and the better weather to finalise the Springfield. With the shoot in January the scope was shooting really high, so I needed to shim the base to get better scope alignment.

Armed with my reloads I tested the base and zeroed the scope. At 100yrds I was getting a 1" group as shown below.



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