Thames Valley Guns

Mauser Mm 410 B .22LR Rifle

Introduction

In June 2013 I acquire my first pre-WWII Mauser rimfire rifle. It was a B series Mm 410 B magazine fed sporting rifle, manufactured I believe from 1936 - 1938 although I am struggling to confirm this. Whilst mechanically it was in reasonable condition the woodwork had seen better times.

As with all my rifles the first test was to ensure it could shoot with a good standard of accuracy. Mechanically the rifle required a major service, so initially the rifle was completely dismantled as this provides me with an opportunity to understand its action, identify any hidden issues and to rebuild it ready for its initial range test.

As you dismantle the rifle, there is an air of build quality, trigger guard, fascia plate, magazine, all fit with precision and blueing is too a high standard. However as to be expected with a eighty year old rifle, problems do occur. In this case the previous owner had glued the stock into the action in some perverse attempt to bed the rifle, which in turn caused tribulations trying to remove it. The rear sight had been assembled incorrectly, there was some rust, considerable amount of muck, carbon, solidified oil, debris, muzzle had been threaded and some stock damage

The stock damage amounted to a series of wooden plugs were various sling attachments had been fitted by previous owners. Two bands had been strapped around both the stock and the barrel. Wood had been removed to permit the bands fitting and when the bands had been removed at a latter date, somebody had inlayed the stock in a poor attempt make a repair.

Ignoring the wood damage the rifle was washed in solvent, all the parts polished, assembled, lubricated and the rifle rebuilt. The rifle worked perfectly during the function test, cycling, extracting and ejecting without fault and the bore showed no signs of wear, which was remarkable for its age. For the accuracy test I wanted to fit a scope but this was not possible as the bolt requires considerable clearance to cycle and therefore requires a set of extra high rings, which I lacked at the time.

Therefore my first shoot had to be with Ironsight's. Shooting supported at 25yrds on an indoor range and with match grade ammunition I was achieving 40mm groups which wasn't brilliant by any means, but I put this down to my eyesight and the open sights. I was confident this rifle could do far better.

Literature

There is plenty of information out there on this rifle. Various forums discuss the rifle in detail, together with a large number of images available on the Internet although the reader should be cautious with the degree of accuracy of these forums. Accurate reference is provided in the book “Rifles of the world” by John Walter and Jon Speed’s Mauser Smallbores sporting, Target and training rifles by collector grade publications, which is dedicated to these fine rifles.

General

As you can see from the picture above, this rifle is a magazine feed, bolt action .22RF sporter with a lightweight tapered barrel 23.6” in length. Whilst the action is identical to the Ms 420 B and Ms 350 B model, one of the easiest ways to identify this particular model from any distance is by the barrel mounted front sling swivel and the safety catch/flag on the bolt. The rifles overall length is 42” and with an unloaded weight of 6.1lbs.

From the outset the reader can see obvious similarity’s with Mauser’s quintessential K98 full bore cousin, items like the ejector and bolt release, bolt shroud and safety, rear sight and extractor all appear similar, however whilst they may appear similar, all these parts are different in size and are not interchangeable. The rifles receiver and bolt mechanism stems from the DSM 34

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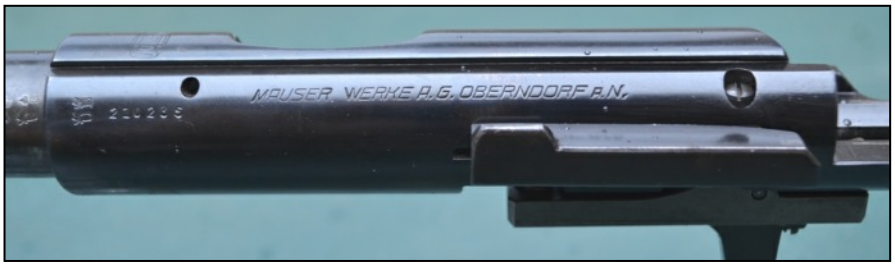
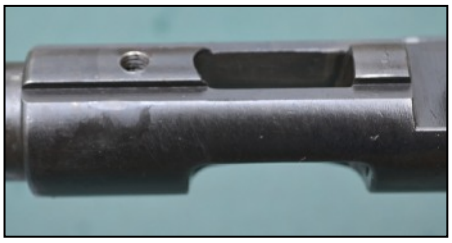
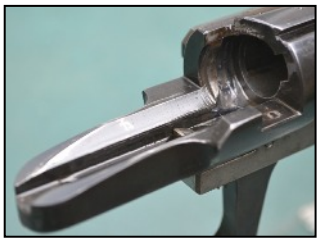
or Deutsches Sportmodell 34, albeit with some improvements which I will discuss in the various sections.

Receiver

The receiver is extremely well made, with a high standard of machining and finish. The receiver is 7" in length which includes the tang, however the receiver only encloses the bolt for 3.5" Unlike modern designs which are in essence a cylindrical tube and utilise the bolt handle to lock the bolt, the Mm410 is machined from solid bar and the bolt locking lug engages in the locking cam at the rear of the receiver. When the operator unlocks the bolt, this same locking cam also provides the bolt with its primary extraction.

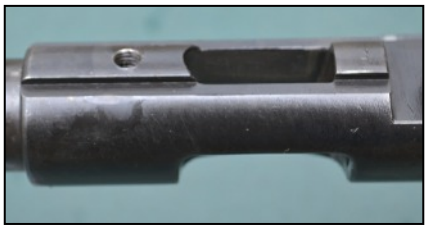






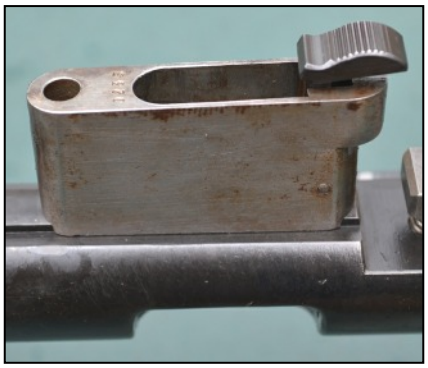
The barrels of today's modern rimfire rifles are pinned, however the 410's receiver is threaded to facilitate the fitting of the barrel. Receiver wall thickness varies but averages 0.212"(5.4mm) which together with the locking cam represents an extremely strong action. On the front left side of the receiver there is a small gas escape port and above this the receiver is milled for the standard rimfire dovetail for the fitting of a scope. To the rear of the gas port is the bolt release, this assembly also acts as the bolt stop and ejector. It is secured by a single screw which also acts as a axis pin.

1.16" from the front of the receiver and on the right side is the ejection port and on the inside front and running the full internal length of the receiver is the key way for the bolts extractor. Rotating the receiver 180° reveals the magazine well, seating for the magazine housing and the trigger mechanism which I will discuss separately.



The Mauser crest sits at the top and to the front of the receiver, on the left side is the Mauser proof marks, serial number and Mauser's company title and location.

Upon receipt of the rifle and with the exception of a good service the receiver was in remarkably good condition with all of its bluing intact and showing no signs of rust or wear. Although the rifle has clearly seen some use over its eighty odd years, its superb condition is testament to the excellent and solid design.



Magazine housing

The magazine housing is machined from a solid steel block and is numbered to the rifle, which usually means its final fitting is by hand. It seats over the magazine well in the receiver and is secured by the main screw. The housing contains the magazine retaining catch, its spring and axis pin. The primary purpose of the magazine housing is to provide support and the correct presentation angle for the magazine, however it also serves two secondary purposes, support for the trigger guard, fascia plate and as a pillar for the main screw.

Whilst a magazine fed rifle may be accurate, reliable feed is paramount and over the years I have experienced many methods of securing magazines and ensuring they are at the correct angle. However none of the methods exceed the consistent reliability of this type of design.

Whilst the magazine is presented perfectly within the housing the external dimensions are equally important as the housing fits perfectly within the stock and thus give a nice overall feeling of good workmanship.

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As the reader may have noticed this housing is discoloured and on the other side it is pitted, I shall clean it up slightly with a 400 grit paper but due to the housings tight tolerances, care must be taken to only “clean” the surface rather than remove metal.

Magazine

These are good reliable magazines and as with all things the design is simple. Manufactured from press steel plate the magazine consists of the magazine body, base plate, magazine spring and platform. The magazine “lips” are crucial in this design as they provide the correct presentation angle for the cartridge. The base plate is locked in place by a small spur on the magazine spring. However due to the age of these magazines this spur is often misaligned and therefore the base plate can be dislodged and lost.

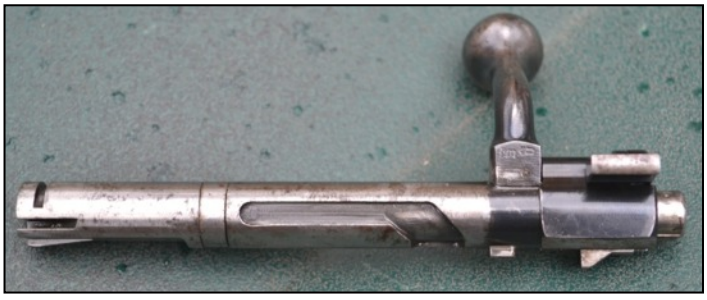
As .22 rimfire ammunition is what I would call “dirty” these magazines soak up all the wax and debris like a proverbial sponge and there fore the user should aim to give these magazines a good clean on a annual basis. Failure to do so will cause the platform to stick.

At the base of the magazine there are two extrusions. The one on the side is the magazine stop which provides the correct height and the one at the rear of the magazine acts in partnership with the magazine catch and locks the magazine in place.

In summary these are good magazines, they are common to many of the Mauser models, however they are very rare. Original magazines have the logo on the base plate but there are some replica’s knocking around as well. I would advise strongly as to loosing or misplacing a magazine. Assuming you can find a replacement, the magazine will set you back a lot of money.

Bolt Assembly

This is an excellent bolt and very well designed. It is just over 5.1” (130mm) long and the reader will note many similarities to the larger K98, extractor, bolt shroud and safety catch etc. The bolt cycles smoothly, feeds and extracts with little effort. The bolt face is recessed for the .22 rimmed cartridge and is fitted with the typical Mauser claw type extractor. On the right side of the bolt face is the recess which allows the passage of the ejector.



However unlike the K98 bolt, the locking lug is at the rear which assists in a smoother cycling action and the bolt stop engages in the recess machined in the centre of the bolt.

The bolt shroud contains the sear, firing pin, firing pin spring and safety and they function in exactly the same manner as the K98. With the safety lever sitting at the 9 o'clock position the rifle is ready to fire. Lifting the safety to the 12 o'clock, disengages the sear but permits the bolt to function, therefore allowing the operator to function the bolt, clear the chamber and empty the magazine. Rotating the safety to the 3 o'clock position, disengages the sear and locks the bolt.

Removing the bolt is a simple case of pulling the bolt to the rear and at the same time, depressing the trigger. If the operator wants to strip the bolt, cock it, lift the safety to the 12 o'clock position and remove the bolt from the rifle. The operator can then rotate the bolt shroud and unscrew the whole assembly. Refitting is the reverse procedure.

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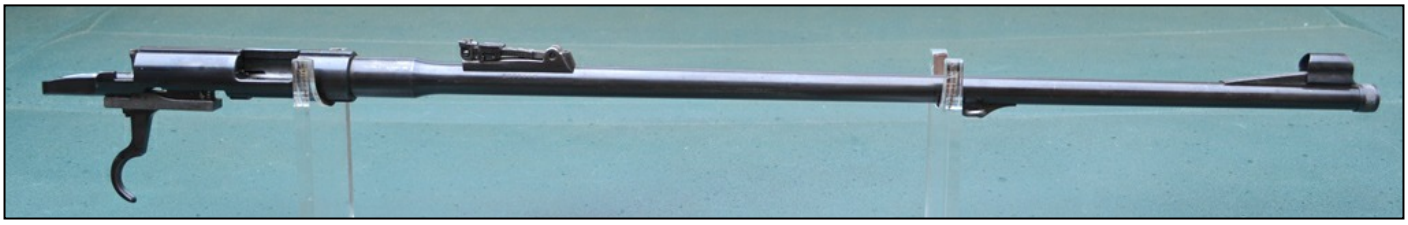
If I have one minor criticism of the bolt, it is with the bolt handle. When the bolt is opened the bolt handle sits very high, making the fitting of a scope more difficult. The only option is to acquire extra high rings so the bolt handle will clear the scope. Why Mauser incorporated this in the design, I am unsure. The receiver is cut for scope mounts and in Jon Speed's book, the mounts are always high. My only thought is that configuration allows the scope to clear the Iron sights and the mounts in Jon Speeds book are of a "see through" type. In the 1930's scopes were in still in there infancy, design wise and may not have had the reliability the we take for granted with today's scopes.

Barrel

The barrel is 23.5" Long, with six grooves and a 1 in 16 twist rate. It is a typical sporter .22 barrel which is 0.9" at the chamber and

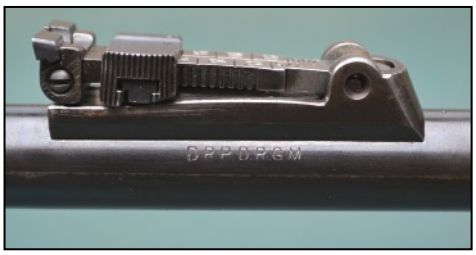


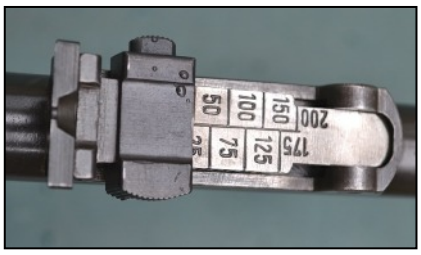
tapers to the muzzle at 0.55". Rifling in this particular rifle is very good, still within its first quarter of life, therefore if looked after well it should give a long and accurate service. Nine inches from the muzzle is the rifles front sling swivel, the bracket is silver soldered on and therefore cannot be removed. I have no interest in fitting a sling but from a shooting point of view it would be interesting to note whether mounting a sling in this manner would effect accuracy as it must pull on the barrel and effect harmonics.

Unfortunately at some point the muzzle has been threaded for a moderator, which removes some of the rifles originality. The thread is ½ x 20UNF but I have no plans to shoot the rifle with a moderator. The barrel is engraved with the cartridge data, "Patrone 22 Long Rifle", serial number, various proof marks, patent marks "D.R.P.D.R.G.M" and the steel code Ch.51. Externally the barrels condition was good, blueing was reasonable for the rifles age but was showing signs of wear around the chamber and the muzzle, there was no rust or pitting which was all rather advantageous as I intended to re-blue the receiver and the barrel.

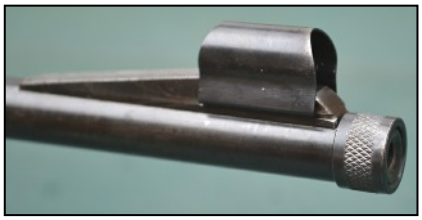
Iron sights

Both front and rear sights were intact when I took receipt of the rifle. The rearsight had been incorrectly assembled at some stage and both sights required a good service as there were full of debris and solidified oil. However a complete strip, degrease and





polish restored both sight assemblies to their original serviceable condition.



The rearsight is a ramp, graduated from 25 - 200 meters and in 25 meter intervals and utilises a slider for elevation adjustment. The ramp is silver soldered onto the barrel and windage can be obtained by adjusting the screw in the rearsight blade. Readers may recognise the rearsight design as it has been widely copied by modern manufacturers such as CZ and Norinco. Windage is by two screws which move the rearsight plate left and right.

The foresight is a longitudinal blade and secures in a dovetail and is locked in place by a spring loaded stud. It has no adjustment, other than by changing blade sizes. The ramp is silver soldered in place, the front face of the ramp is serrated to minimise reflection and it is fitted with a fore sight protector

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Stock

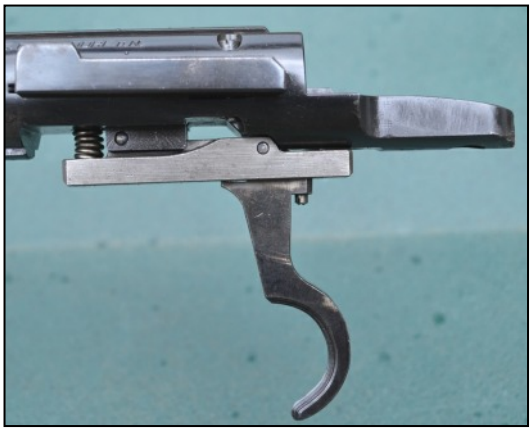
Sadly it is the stock that has taken the most abuse over the years, there were various holes for sling swivels, holes for mounting a aperture sight on the stock and as mentioned earlier in these notes, wood has been carved out to permit the fitting of some sort

of bands. Upon taking receipt of the rifle, I tried to removed the stock and could not remove it, my first thought was maybe I had missed a screw somewhere but after some investigation and some head scratching it appeared the stock was glued to the action. Utilising the same method to remove the stock after I bed a rifle, I managed to released the stock without damaging it. The stock around the chamber area had some resin type adhesive that looked remarkably like Araldite. Why users do this to there rifles leaves me speechless or better still, unprintable.

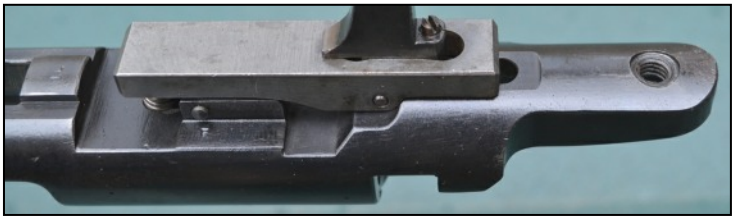
Despite all this damaged, it was mainly superficial, the stock was solid, did not have any cracks, fractures or any wood missing, the Mauser logo was intact as was the butt plate. To make the repairs, the holes were machined and the wood was machined out where the bands had been and new walnut inserted and glued into place. All the old finish, Araldite and any damage was removed and a new finish applied, the logo was preserved and the stock restored to it original condition. Screws and sling swivels were clean up and re-blued and as a result the stock restored to a good standard. You may note that the hole for the rear main screw is sleeved, add the magazine housing and you have a pillar bedded rifle.

Trigger Mechanism

Whilst the trigger mechanism operates utilising the same principle as the standard K98, the trigger components are totally different as can be seen below and unlike its larger K98 cousin the trigger is adjustable for sear release making it an altogether better design. Trigger pressure for this particular rifle is a very pleasant 2.4lbs which makes the rifle suitable for target, general sporting and hunting.



As with the K98, stripping the trigger is simplistic and for cleaning purposes the user should only need to remove the pin directly behind the trigger spring, taking care not to loose the pin or the spring.



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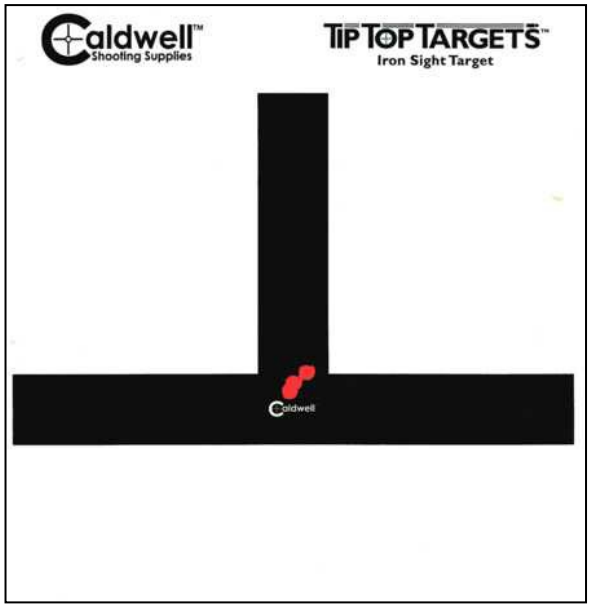
Fitting a Scope

These rifles are very well made and from a Armourers perspective it is hard to find fault, if a I have a minor criticism it is with the bolt handle and the angle it is set at. Fitting a scope requires a set of scope rings that measure at least 1" from the bottom of the mount to the base of the scope. I wanted to fit a period scope but scope tube diameters at this period were 22 or 26mm and I cant find any rings that will meet this criteria. I brought some EAW adjustable 22mm rings, which at £200 is a considerable sum of money and which measured 0.750 and therefore didn t fit. Therefore the only solution was to fit modern extra high 1" rings with a 1" scope.



To get the height that I wanted, I purchased a set of Sportsmatch 1" see through rings. This gave me the height, allowed me to use the safety catch, Iron sights and had some keeping with the original mounts as they were also of the "see through" type. Primary concerns for my choice of scope was the size of the ocular lens housing as this directly impacted on the operation of the bolt handle. The smallest scope I had in stock was an early American Weaver K2.5 which had a 1" steel tube and a very small ocular lens with an O/D of 1.23". How ever the 2.5 magnification and the post type reticule was a very restrictive, so therefore I settled for a 1960's x4 Lyman with a very fine wire reticule.

Range Test

Initial range test was conducted indoors at 25yrds with an outdoor shoot up at 75yrds using round nose RWS match as these will reliably feed utilising the rifles magazine. Shooting sitting supported at 25yrds my average group was 0.383" (9.74mm),however my best group was 0.281" (7.15mm) to test absolute accuracy I intend to hand feed Eley Tenex to see if I can maximise the rifles accuracy. More to come when I can get out to the range!!!!

Summary

These rifles are increasingly rare in the UK and as a result prices are rising. If you can find one, expect to pay £400 - £500 or more depending on the rifles condition. They are surprisingly good rifles and from an era when rifles were manufactured to high levels

of quality and by individuals who took a real pride in there workmanship. Even if the rifle has seen quite a bruising life style, as long as the bolt, receiver and barrel are in good condition you can restore these rifles to a near original condition.

From a manufacturing standpoint, these rifles are machined and finished to such a high standard that to make these rifles today would command a price well in excess of a £1000. As Mauser today are a purveyor of fine rifles it would be excellent if they would consider reproducing these rifles once again.

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Spares and magazines are almost non existent, so the user should take every precaution to minimise wear and avoid misplacing the magazine.

As an Armourer I can find little fault with these rifles, they are 80 plus years old and will match or outperform most modern rifles, they are accurate, reliable and an absolute pleasure to shoot.

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