

Thames Valley Guns

Mauser 107 .22LR Rifle

Introduction

In late 2010, early 2011 I started to study the superb Mauser 201, looking at its operating mechanism and assessing its performance in both .22LR and .22WMR. I have been fortunate to cover most aspects of the 201 and will probably start to wind down the project by the end of 2013. As a result I thought it may be prudent and start to expand my horizons and explore some of Mauser's other rimfire designs from the 1970's/80's.

My first rifle was the Mauser 107, a magazine fed, bolt action .22RF. Whilst the rifle is clearly aimed at the budget end of the market there are not many of these rifles to be found in the UK around the middle of 2013. In fact the only one I could find was in a local gun shop in the Peterborough area. The dealer was very good and after a quick phone call to discuss the rifles condition, it was on my doorstep within a couple of days.

The rifle appeared in reasonable condition but both the front and rearsight's were missing as were the sling swivels. The stock was marked and the lacquered finish was chipped here and there. As is customary for second hand guns in the UK gun trade the rifle had not been cleaned or serviced.

Therefore the plan of action was to strip, clean, photograph the components, rebuild, fit a temporary scope and test fire. Assuming all goes well, the final stage would be to strip, refinish the stock and fit a suitable scope, taking into account the rifles intended use.



The picture above shows the rifle after stage one, having been completely stripped, cleaned and serviced. I installed a foresight although it was not an original Mauser design, fitted some period sling swivels and applied a temporary scope for the range tests.

Literature

There is next to no literature out there on this rifle, a brief mention in the books such as "Rifles of the world" by John Walter and the occasional article in the gun magazines, but very little else, including any searches on the Internet.

Brief History

As with many companies, company history can get confusing and Voere is no exception. Voere started in Germany and expanded into Austria with both companies manufacturing small arms. In 1986 the German company ran into troubles and was sold to Mauser who continued to manufacture small bore rifles. For detailed information visit Voere's website at <http://www.voere.com/en/history.html>. This provides the explanation as to why there are two very similar rifles but with different brand names. The Voere version is known as the model 2107. When Mauser purchased the German company the rifle was re-branded and renamed the Mauser 107 dropping the 2 prefix.

These rifles were only produced in .22LR and targeted the lower end of the rimfire rifle market. There was only one version with a basic Monte Carlo beech stock, checkering to the pistol grip and simple sling swivels.

General

The rifle has a overall length of 40.5"; the barrel is a fairly light sporter variety and is 21.5" long and threaded for a moderator. Rearsight is an adjustable ramp with a barleycorn sight arrangement and the front sight is a ramp, blade and protector. The rifle has a five round magazine and a two pull trigger. With the scope fitted the rifle weighed in at pleasant 7.5lbs

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Receiver

The receiver is very traditional in its layout, being in essence a cylindrical tube. However whilst the receiver has a diameter at 0.86" the receiver is 7.5" long, which is a little more unusual. Long receivers always have a smooth and efficient bolt cycle as the bolt is supported for two thirds of its length by the receiver. The ejection port is 1¼" long and permits the spent case to be ejected to the right and away from the shooter's face. At six o'clock directly beneath the ejection port the receiver is machined away to facilitate the magazine well and the fitting of the magazine.



Behind the magazine well is the ejector which is very similar to the Anschutz design and secures in the same manner, although it is a more flimsy design.

The barrel appears to be locked in place by a combination of a locking plate and the main screw securing the stock, but I cannot be certain. A magazine article I read concerning the 107 stated that the barrel was heat pressed and pinned. However there is definitely no evidence of the barrel being pinned.

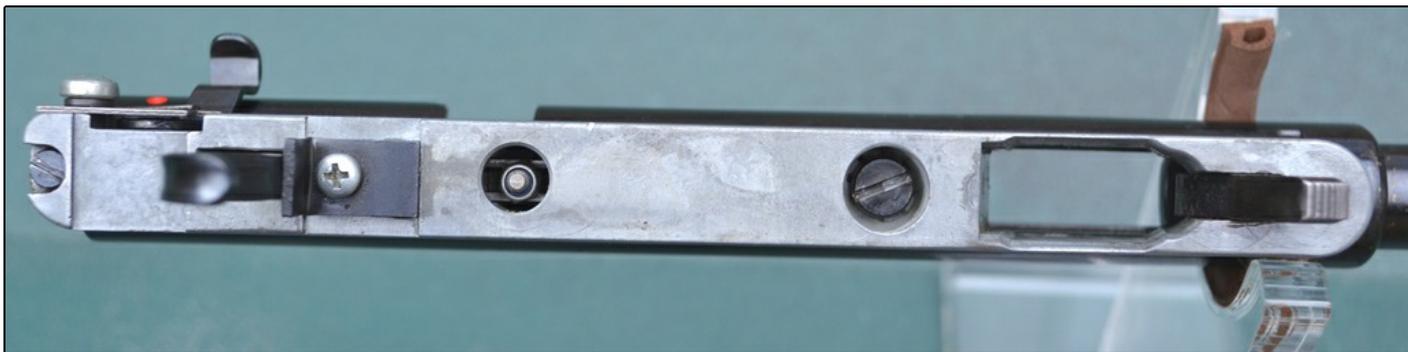


The receiver has a typical rimfire dovetail for mounting a scope with two pairs of punch marks as can be seen on the picture. They are machined punched, so they have not been applied at a later date. Therefore I assume they are some form recoil stop for the scope rings but I can't see them as serving any real purpose.

The bolt locks by the bolt handle lock simply engaging in the lower section of the bolt channel.

Trigger and magazine housing

The trigger and magazine housing is 7" long and fits almost the entire length of the receiver as can be seen above. It houses the trigger mechanism, safety catch, the magazine and its retaining catch and appears to be manufactured from an aluminium casting.



The housing is secured by two screws and I would recommend leaving them alone unless you are a qualified Armourer or Gunsmith. Removing the screws permits the housing to fall free from the receiver plus the sear spring and it is crucial that you are aware of the sear springs location for re-assembly purposes.

The trigger is manufactured from sheet steel and operates with some similarity to the traditional Mauser trigger in that it has the two radius's to provide the first and second pull. The trigger can be adjusted for length of pull by adjusting the captive nut shown above. Trigger pressure can be adjusted by moving the sear spring between its two seating locations which alters the leverage of the sear. The safety catch is a cam shaft which passes through the housing and is retained by a plate which also acts as its detent spring. Rotating the safety provides the clearance which in turn permits the trigger to rotate and thus releases the sear.

The plate that you can see in front of the trigger is simply the trigger stop and prevents the trigger from rotating too far forward.

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The magazine housing provides support and the correct presentation angle for the magazine, which is secured by the magazine catch. This catch is common to the Mauser 107, 105 and the 201. Whilst the catch is effective, it does generate the one minor criticism that I have with this rifle. Sitting forward of the magazine does present the opportunity for the catch to be released accidentally and the loss of a loaded magazine.

In summary the trigger assembly is no precision mechanism and can be considered quite crude and typically reflects the rifles budget price, however unless you strip the mechanism down you are completely unaware of this fact as the trigger functions efficiently, smoothly and releases at a crisp and very pleasant 2.0 lbs.

Bolt Assembly

For a budget rifle this is a well made bolt, its just over 6½" long and its length is crucial in delivering a smooth bolt cycle. The bolt locks with the downward action of the bolt handle within the receiver and similarly, when opening the bolt the upward action provides the primary extraction.

Fully depressing the trigger, allows the shooter, to both remove and re-assemble the bolt assembly.

The bolt head houses the firing pin, firing spring, the twin extractors and their spring. To remove the bolt head you must remove the extractor spring and remove the two extractors. Doing so releases the bolt head and one can access the firing pin and its spring which is necessary from time to time to facilitate cleaning.

However stripping these extractors is somewhat awkward. Please note that the extractors have different shapes and serve different purposes and must be re-assembled correctly. One extractor is a claw, it holds the case onto the bolt face and acts as a pivot for the ejector. The other extractor is not an extractor in the true sense of the word, it is an arm which provides tension and keeps the case tensioned up against the extractor claw.

The firing pin is fairly standard and doesn't deserve any special mention, however the tiny firing pin spring serves to withdraw the firing pin after it has impacted the primer and should be kept clean.

The bolt body houses the main spring and the cocking piece, underneath of the bolt body there is a shoulder which acts as the bolt stop. The bolt cocks on opening and when closing the bolt the cocking piece is held to the rear on the sear, the bolt rotates about its axis and locks. Between the bolt body and the cocking piece is a pin and a roller. This roller is crucial to the the smooth operation of the bolt and together and definitely improves the bolt overall operation when compared to bolts that lack this feature.

Iron sights

Both front and rear sights were missing from this rifle upon receipt and as a result I fitted a CZ model fore sight. I have no intention of using this fore sight, it has simply been installed to improve the cosmetics somewhat until I can find an original sight.

The rearsight is a ramp, graduated from 25 - 200 meters and utilises a slider for elevation adjustment. The ramp fits in the barrel and windage can be obtained by moving the entire ramp laterally within the dovetail.

The rearsight sits to close to the scope rail and to get the best out of this rifle the shooter should fit a scope, however to this cant be effectively done without removing the rear sight.



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Barrel

The barrel is 21.5" Long, with six grooves and a 1 in 16 twist rate. It is a typical sporter .22 barrel which is 0.63" at the chamber and remains parallel to the muzzle.

The muzzle is crowned and threaded for a moderator at the factory and therefore does not require entry into the UK proofing system. Thread is $\frac{1}{2}$ x 20UNF and is fitted with a thread protector.

The barrel is engraved with the Mauser crest and is stamped with the serial number, Mauser's title, model number and calibre. Blueing is good but lacks the quality and depth of the Mauser 201 but that is expected for the market this rifle is aimed at.



Woodwork

The stock is manufactured from beech, has a lacquered finish, has a basic Monte Carlo format, machine checkering to the pistol grip and simple sling swivels. Internally machining is good and the barrel and action fit well. The action is secured using a single



main screw and the barrel does not float as it is designed to sit on the forend. The trigger guard is a simple press steel design, sits on a fascia plate and secures direct to the stock. Butt plate is a simple plastic affair that in this rifle has taken an impact or two, whilst OK if I can find a new or serviceable plate, I will replacement it.

Whilst I am not a fan of the single main screw to secure the action/barrel it does in this case appear to be effective but this is largely down to the large magazine and trigger housing.

This stock does exactly what it says on the box and without any frills. Once I have tested the rifle for accuracy I will strip the stock down and refinish it.

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Magazine

The magazine is really what identifies the rifle's heritage. This magazine is common to the Mauser 107, 105 and the 201 and the corresponding Voere rifles. It is utilised throughout the .22RF Voere range and sometimes has REP (Repeater) on the base plate, which indicates its use in bolt action rifles. They are good and reliable magazines that together with the magazine housing provide reliable feed, which is exactly what a shooter requires.



Whilst this magazine is limited to five rounds, there is an 8rd available should the shooter require it.

Range Test

I intended to use this rifle for night shoots and therefore zeroing was carried out at a 25yrd in-door range as I felt engagements were going to be limited to 35-50yrds maximum, which was the effective range of my scope mounted torch.

As this rifle came onto the market in the late eighties I would normally try and fit a period scope. However eighties technology excluded illuminated reticules, which I preferred for night engagements, so I had on this occasion no choice but to fit a modern scope with my choice being a 3-9x42 Nikko

Stirling Diamond, which utilises a duplex reticule and a very small illuminated dot.

Fitted with a Norwegian A-Tec rimfire moderator and shooting supported from the bench I obtained 6.5mm as the best three round group. However I did have to shoot the rifle a number of times to obtain it. The rifle fed and extracted reliably and the bolt cycle was extremely smooth. However, one minor observation, you had to apply slightly more effort when closing the bolt on a cartridge than when the chamber is empty, therefore giving me the impression that the rim is being crushed slightly. I am currently unsure, why this is. It may be to ensure the correct headspace, it may be ammunition sensitive as up to this point I have only shot Eley Sub-Sonic. I will experiment with other ammunition types and try to identify if it is common to all ammunition types or it is a feature of the rifle.

Everything about this rifle is aimed at the budget market, the stock and trigger mechanism being the most obvious points, however for all its press steel construction the trigger operates smoothly and releases crisply at 2.0lbs, the long bolt design provides a very smooth cycling action and feeds, extracts and ejects without fault and the rifle is without doubt accurate. In comparison with some of today's rifles it is well made, there is no plastic anywhere, everything is metal or wood. The stock maybe beech and lacks any grain but it is strong, of good portions and is well machined and after twenty years the rifle shows no sign of wear.



It is interesting to note that when new, this rifle was around selling at around £150.00. I purchased this rifle for £200.00 second hand so the rifle has not only maintained its value but increased it after all these years, despite its second hand condition.

I suppose I am somewhat spoilt by the Mauser 201 which is clearly aimed at the opposite end of the market, but I must say I like this rifle, it is in my opinion, superior to many of its competitors of the time, is very capable and will outperform many modern rifles, that are in a similar budget market.

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Summary

I have taken this rifle out into the field and it has proven itself to be very capable, reliable and effective. I have replaced the A-Tec



moderator with a Asi Ultra rimfire model as I had reflection problems with the scope and the scope mounted lamp. I nearly lost the magazine during one field trip, so therefore I have designed a small shroud which protects the magazine release catch and prevents its accidental release. The rifles lightweight makes it easier to take unsupported shots and it is easier to handle when climbing over and under fences.



All in all I am very please with this rifle, it may be a budget model but it is very capable and out performs many of the more expensive rifles.

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