

Thames Valley Guns Armourers Report

Tikka T3 Super Varmint .223 Rifle

Introduction

In late 2016 I decided to sell my .223 Mossberg MRP LC and replace it with another .223 calibre rifle. This was driven by the fact that I really liked the Canadian MDT HS3 chassis system and wanted a suitable rifle to fit it. The HS3 Chassis system is designed to accept the following rifles Remington 700, Remington 7, Howa 1500, Savage and the Tikka T3. The Howa and T3 were the only two rifles that interested me and after some research it was clear that both rifles were readily available in the UK. The Howa was



available as a varmint, 1 in 9 twist, threaded muzzle, in blue but without a rail. However its greatest attraction was its price at a shade under £500 retail. The Tikka on the other hand was double that price and then some, was available as a super varmint, fitted with a rail, threaded, in stainless, 1 in 8 twist and had a superior stock.

I have worked on a few Howa's over the years, even owned one, they are good rifles, good quality, very good value for money and in recent years have been subject to various aftermarket kits. On the other hand the Tikka tends to be a hunting rifle, I have worked on the Tikka tactical when they first appeared but it never really appealed to me as the price was astronomical for what it was and whilst the Tikka is without doubt a quality rifle its hunting heritage meant that only few have crossed my work bench.

So why did I purchase a Tikka when the Howa appears the obvious choice, one word, quality. Whilst the Howa is good quality, the Tikka is superior in this respect, the 1 in 8 give me more flexibility in terms of bullet choice and I wanted the best rifle available for the MDT HS3 chassis system.

Specification

I have mentioned it many times in my Armourers reports that modern guns bore me and as a hunting rifle the Tikka is no exception, I dislike stainless coloured rifles immensely and plastic stocks just leave me feeling empty. However the exception to this rule is sniper rifles, be they old or new, the concept and performance of the sniper rifle fascinates me and my build specification for this rifle is to build a .223 rifle that would at least fore fill a Police marksman rifles role.

Therefore using "off the shelf" components, I plan to assemble a heavy barrelled Tikka, with its relatively simple but reliable action, which is suitable for an urban and civilian range environment with a maximum engagement range of 600yds, 10rd magazine capacity, aluminium chassis system, suitable tactical scope and bipod.

Receiver

The Tikka's stainless steel receiver is 225mm in length an 30.7mm wide and has a very traditional design. Like most manufacturers Sako produce a short and long receiver depending on the calibre choice. The .223 is a short receiver but will accommodate calibres



up to .308. The receiver profile is hexagonal from the top to the sides and is round at the bottom as can be seen in the image below. The barrel screws into the barrel in the normal manner and the twin locking lugs of the bolt lock into the receiver. Although a super varmint model is fitted with a picatinny scope rail, the receiver is still milled with the traditional dovetail thereby highlighting that one standard receiver fits all. One minor point that the reader may wish to be aware off, it that Sako loctite not only the screws for the picatinny rail but the rail itself.

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Therefore when removing the rail this leaves hardened adhesive all over the top of the receiver, which is almost impossible to remove and can be seen in the image to the right. The ejection port is 80mm at its shortest point but will accommodate all calibres up to .308 Winchester.



Unlike American rifles, where the recoil lug is located between the barrel and receiver, the Tikka's recoil lug is a groove in the receiver and the actual lug is built into the stock. This is a very Scandinavian design and something I also experienced with the Norwegian Kongsberg rifles. The receiver secures to the stock using the traditional two master screws and the magazine well is again a one size fits all arrangement.



The trigger is a stand alone unit which simply secures using a single hex bolt. The trigger is a single pull design and is adjustable between 2-4lbs but is factory set at 3lbs. The safety catch can only be applied when the action is cocked, it locks the trigger, sear and locks the bolt in the closed position. On the left side of the receiver there is the bolt release lever which also acts as the bolt stop. In front of the bolt release lever is the model designation, serial number, proof mark and forward of this is the gas vent. The quality of machine work and overall finish of the receiver is superb with no tooling marks or poor fitting components.

Bolt Assembly

The bolt assembly is a semi polished steel, one piece bolt with the bolt knob being manufactured from impact resistant plastic. The bolt is substantial with a two lug bolt head, plunger ejector and a lever style extractor. Operation of the bolt is very smooth with very little bolt wobble and there is a gas vent in the bolt head. The bolt head and bolt body are one piece and therefore rotate together when locking with only the shroud, cocking piece and firing pin rotating about its axis. Although difficult to find, underneath the bolt handle is the last three digits of the serial number thereby matching the bolt to the receiver.



Bolt lift is 60° and like all modern bolt mechanisms the bolts cocking mechanism cocks on opening. The cocking piece protrudes from the rear of the shroud with a red dot when cocked thereby acting as a gun state indicator. Removal of the aluminium shroud and firing pin permits the removal of the bolt handle, making this a fairly simple bolt mechanism that is very easy to strip but with excellent

build quality. As the bolt handle is an easy item to replace with aftermarket products I have decided to replace the bolt handle and shroud with an all black tactical version.

Barrel

The barrel is a stainless steel quality free floating barrel and on this model is 508mm or 20" long. Other barrel options are available, including various calibres and lengths. The barrel is 28.5mm at its widest point and narrows to 22mm at the muzzle and is threaded for a moderator or muzzle break. The barrel screws into the receiver in the traditional manner and on the left side are details of the rifles calibre, twist rate (1 in 8) and the country of origin.



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Stock & Magazine Assembly

Plastic stocks that are being sold nowadays, especially on American budget rifles are in my opinion very poor. But in fairness to



Sako, the Tikka stock assembly is pretty good and is manufactured to a high standard, although this level of quality does come at a cost. If you want a functional, impact resistant, water proof stock that compliments the rifle when your out hunting in the woods at all times of the year then this is probably the stock for you. Whilst the stock is manufactured from impact resistant plastic, it is reasonably solid, doesn't flex, the butt plate is adjustable for length using inserts and has an adjustable check pad. The forend and pistol grip have moderate anti slip checkering and the overall build quality is good.

The .223 Magazine is limited to six rounds and are fitted with spacer inserts, so the same magazine can be used for various calibres with similar case sizes. Magazines are manufactured from the same impact resistant plastic as the stock and are a single stack design, very functional, work reliably and I have never seen one misfeed which is what is required of a magazine. One interesting point of note, this is pretty much the same stock and magazine as fitted to the Tikka T3 Tactical, which is one of the reasons why I didn't purchase the rifle.

Upgrade package

To upgrade this rifle I planned to alter the bolt, stock, magazine, receiver and barrel with none of the work requiring any major gunsmithing work. My only pre-requisite for the builder would be a reasonable knowledge of firearms and the specification you want to achieve. Therefore my specification is as follows:

1. Heavy varmint type barrel, .223 calibre, minimum 1 in 9 twist.
2. Engagement range, 100 - 600 yards
3. Threaded muzzle for the fitting of a muzzle break.
4. Picatinny scope rail.
5. Relatively simple bolt, trigger and receiver operating mechanism.
6. Tactical finish.
7. Tactical aluminium chassis system.
8. Tactical butt assembly.
9. Atlas bipod and suitable tactical scope.

Barrel/Receiver

My first exercise was to black cerakote the barrel and receiver. I had considered dark earth as a colour as this would match the chassis system skins but experience has taught me that dark earth, gets dirty very quickly, with oil, grease, carbon and therefore flat black was more suitable. Cerakoting requires surface preparation, spraying and oven drying, therefore this was a job that had to be outsourced. In preparation for cerakoting the rifle has to be stripped and the parts that want painting also stripped of all components. As mentioned previously, the Tikka makes this whole process simple and pain free with the only exception being the picatinny rail, which should be removed with care as the the loctite causes it to bind and its easy to bend the rail as a result.

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The hardened loctite cannot be removed, even with heat and therefore shot blasting is the only non destructive method to remove the loctite.

Bolt

A semi polished and therefore shiny bolt is far from tactical. The easiest task was to replaced the bolt handle with a black tactical version and a new bolt shroud. The new shroud is flat black, has a different profile and matches the contours of the receiver more effectively than the original. However if one is to be honest there is nothing really to be gained at this stage by the new bolt shroud except improving the cosmetics.



I considered cerakoting the bolt body but decided against this course of action as previous experience has shown that this process increases the level of friction and therefore make the cycling of the bolt more sluggish.

MDT Stock, Butt & Magazine

The Canadian MDT HS3 stock at first appearance uses a similar concept to the AICS in that it has a aluminium chassis system and uses skins to provide the handling characteristics. The principle difference between the two systems is that the MDT has a separate interchangeable butt and pistol grip assembly using AR15 components, where the AICS has an all in one configuration and cannot



utilise other manufacturers parts. Whilst the HS3 has more options or configurations this makes the purchase process more complicated and prone to more errors, so buyer beware. When purchasing the HS3, you initially purchase only the stock and choose the colour of your skins, however you also need to consider your choice of bipod. The HR3 is provided with a QD stud which is only suitable for Harris type bipod's, if you wish to fit a bipod that requires a rail like the Atlas, you must also purchase a picatinny rail as an optional extra. If you plan to purchase the MDT V4 skeletal butt as I have, you should also consider the pistol grip. The



pistol grip is the Hogue model and ensure you purchase the grip without the beavertail as those with the beavertail will not fit.

I had considered the Magpul PRS as my first choice for a suitable butt but they are fairly heavy and therefore I thought it would make the rifle butt heavy, so I decided on MDT's V4 skeletal butt and colour matched it to the skins. I have had no previous experience of this butt but my first impressions where of a good, simple and solid design providing adjustment to both the butt and cheek pad. Once adjusted to a position of preference they can be locked in place with a hex bolt.

The HS3 accepts AICS magazines but I was unsure of the availability .223 versions therefore I decided to purchase MDT's own version. The 10rd magazine is a single stack design and is manufactured from impact resistant plastic. It is a one piece design with a removable base plate for assembly/disassembly of the main spring and platform. At the time of writing I have no operational experience of this magazine so cannot comment on its performance. One point I should mention is that this magazine has been designed for the heavier .223 bullets and has an extra 5mm of clearance at the front of the magazine in comparison to the Tikka magazine.

During assembly some minor issues became apparent that I was unaware off. The most noticeable is that you must remove the cheek pad to be able to remove the bolt for cleaning. If the pad is elevated it must be clamped to provide stability and therefore a hex key is required to loosen the clamp prior to removing the pad and in turn removing the bolt, which is less than perfect in the military environment. Once the cheek pad is removed there is nothing to retain the elevating drum and this can easily be lost if the shooter is unaware. The same issue also applies to the adjusting drum for the butt pad, however once the butt length is set and clamped there should be no reason to strip this component.

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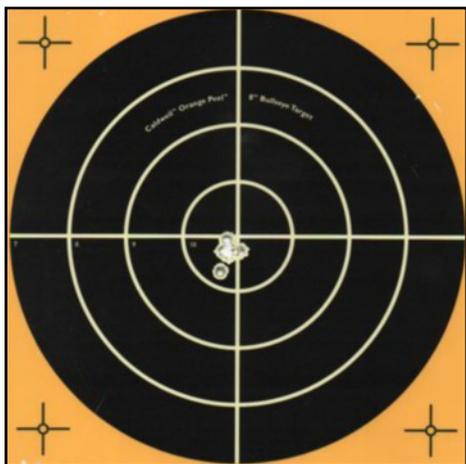
Range Test

The range test had to identify a number of potential issues, whilst the stock was designed for the Tikka short receiver, the magazine had to fit correctly, at the correct height and angle to permit the bolt to feed the round successfully from the magazine, in essence it all had to work effectively and with complete reliability. Assuming this all went to plan, I also had to zero, adjust the scope drums and identify the most accurate bullet for this rifle configuration.



To complete the build, I fitted an Atlas bipod, which in my opinion are one of the best bipod's on the market, scope rings were German 30mm Reznagel which although relatively expensive are of excellent quality and the scope was a German Tactical KAPS 2.5-10x56.

Karl Kaps GmbH are a relatively unknown brand in the UK in terms of their rifle scopes and are probably more well known for their surgical and laboratory microscopes. They are a family firm and their scopes are very good, high quality, reasonably priced and although not quite the lens quality of S&B, I am unable to tell the difference. They produce a range of tactical scopes and a choice of reticules, although for a tactical scope I prefer their Spindler reticule, my only minor criticism is with the elevation drum as it is calibrated for 7.62mm NATO. When I enquired about 5.56mm drum, although helpful, the company could only produce a blank drum for me to engrave myself. If the company are targeting military markets with these scopes, a suggestion might be to provide a second "universal" drum or an option for 5.56mm.



My first trip to the range was shooting from the bench using 24gr of N140, Lapua brass and Sierra 77grn HPBT bullets, generating an average velocity of 2494fps.

Once zeroed, accuracy was outstanding for a factory barrel with the rifle producing groups consistently under 25mm and more often than not 16mm. The group shown to the left was 14mm including the flyer and 8mm with all four rounds touching.

In terms of operation the rifle performed flawlessly with no misfeed's or extraction problems. More recently a trip to the ranges, shooting at 300 yards generated similar outstanding results as the earlier shoot.

Constructive criticism is hard to find but I did identify two minor issues one with the MDT stock and one with the Tikka. On the MDT stock there were burrs on the cheek pad which prickled your face and as a result are annoying. They can be easily removed by filing but this is a quality problem that MDT should resolve themselves. The second

problem is adjusting the trigger pressure, it is factory set at 3lbs which I find slightly heavy, when adjusting the grub screw it binds on the hex screw which secures the trigger unit, again a silly easily avoided quality problem.

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Summary

The Tikka heavy barrelled varmint, KAPS scope, Atlas bipod, tactical bolt knob, MDT stock and butt assembly makes an excellent .223 package that can be assembled by a knowledgeable shooter, although I wouldn't recommend the build be completed by a novice or a person without any mechanical ability as there are potential pitfalls.

The short barrel makes for a more compact design but the overall set-up is fairly heavy and therefore shooting from the kneeling or standing position is more tiring. The quality and simplicity of the Tikka and its design produces an excellent rifle that is available "off the shelf" and at a reasonable price.



Purchasing from MDT in Canada is pain free exercise but buyer be aware if you are based in the UK as magazines are now controlled items and you will be required to show your FAC or RFD to the customs authorities to show you are entitled to receive these items.

For civilian disciplines this rifle is extremely accurate, its heavy weight is beneficial to absorbing recoil. This rifle can shoot 0.5 moa groups at 100yds with relative ease. Its tactical appearance will appeal to those in the civilian shooting world who like the military look but its excessive weight makes it unsuitable in my opinion as a hunting rifle for all but the fittest of users, shooting this rifle in the standing or kneeling position would be quite tiring.

As a police marksman rifle this rifle has potential. 5.56mm rifles do not traditionally make sniper rifles as their lighter bullets are unable to penetrate body armour and are more prone to ricochet off glass etc. However some police forces outside of the UK use 5.56 as there is less opportunity for "blue on blue" accidents. At the time of writing the Canadian Rangers have selected the Tikka CTR T3 in .308 to replace their venerable Lee Enfield .303 No4's which is quite an accolade.

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Paul Green

Thames Valley Guns, England

www.thamesvalleyguns.co.uk

Email: paul.tvg@ntlworld.com