High Power Bolt Rifle Project:

The trials, pitfalls and learning the hard and expensive way…

Why?

Frustration and jealousy were big drivers. I simply wanted a great looking and shooting rifle. I knew we could not get any of the "schmick gear" like a Tubb 2000 or even an AR based space gun, the gun laws are too regressive (don't get me going on this topic).

I've seen and read a lot about the HP match rifle, and had an inkling of what was needed,… and I was also dumb and stubborn enough not to know when to give up.

What?

The decision was made to go with a Remington 700 in .223. The reasons:

- Already had a Rem 700P TWS in 308, and it shoots very well.
- Already had a spare HS Precision stock from the Rem 700P
- Good parts and accessories available: detachable magazine kits, triggers, etc
- Cheap calibre to operate, which seems to have done well in the US.
- Rifle known rifle to the gunsmiths and barrel makers

Other options:

- Calibre is always a controversial subject, so all of this can be done with a Remington 700 in alternative calibres, such as 308, 6.5 '08, 7mm '08 etc.
- Longer case lengths require the longer action version.

How?

- Get a custom barrel and action made up, or use an out of the box rifle
- Drop in a new trigger and firing pin, if you require
- Slip it into the modified stock, which is recommended
- Add a handstop rail to the stock, or use a fixed handstop
- Bolt on the extras (adjustable buttplate, magazine system, sights)
- Get into lots of "x"s, after lotsa practice.

Parts Inventory and prices (in A$) for 223 rifle project.

Description	Price		Notes
Action	$	800	Remington 700 .223 short action, new complete
Barrel	$	800	Tobler stainless fluted 28 inch 1 in 8 twist
Trigger	$	150	Rifle Basix 8oz to 1,5 lbs
Firing pin & spring	$	93	Tubb firing pin and spring
Floor plate	$	285	HS Precision detachable magazine system, with magazine
Additional Magazine	$	104	HS Detachable magazine
Fitting	$	400	Gunsmithing
Stock	$	400	HS tactical Stock (ex Remington TWS)
Fore-end rail	$	15	Inletted and fitted into stock
Rear sight mount	$	30	Weaver sight bases
Front sight base	$	120	McRorie Extended front sight
Front Iris	$	145	Gehmann 520C Sight 22mm 2.9 - 4.9
Rear Iris	$	196	Gehmann 560N 5 colour rear iris
Sight shades	$	32	Front and back
Butt Plate	$	165	Tubb 4 way
Rear sight	$	585	CG Centra Weaver mount
Front tunnel + adaptor	$	80	Koala Eagle eye 22mm
Sub Total	**$**	**4,400**	

Key Components:

Stock:

Apart from action, this is a vital component to select.

I already had a very good HS Precision stock from a previous Rem 700. It's a tactical stock, so not 100% ideal, but it has some excellent features, such as a full length internal aluminium frame, incorporating an aluminium bedding block, into which the receiver is screwed. This eliminates the need for any bedding.

Below, is an example of an American High Power stock (Alex Sitman, Master Class Stocks). It shows the key components: Adjustable butt plate, adjustable cheek piece, and deep pistol grip, fore grip/handguard.

The latter feature has an obvious advantage for off-hand shooting, but beware the HP rule about it being no lower than 2.5 inches from centre of bore.

I had an accessory rail inletted into the handguard for the adjustable hand stop, with clip in, removable swivel.

Front accessory rail, handstop

The adjustable butt plate was a key requirement, so I chose the Tubb 4 way adjustable. It's a great unit which comes oversized, but is readily converted to size, as its aluminium.

Tubb butt plate, as supplied

Reworked to fit stock

The stock was cut down by about 3 or 4 inches at the rear, glass filled, and the plate mounted as below.

The pistol grip was also a bit short, so an aluminium extension was added. This helps greatly in keeping the rifle under control.

Close up of stock components.

Magazines:

Since HP requires a slick reload, and I'm not mad about stripper clips. I thought that a quick release mag system would be the answer.

An extensive internet and email search indicated that the HS Precision 5 round detachable mag system was the way to go. They proved problematic, and could remain the Achilles heel of the entire rifle, mainly because they turned out to be 4 round capacity, and had to be extensively modified. Stripper clips remain the backup option.

HS Precision 223 Magazine kit

Reworked for 5 rounds

However, HS also make a 10 round mag for Remington 700 308 shooters. Good for most service shooters, but probably too long for HP, and could be cut down to 5 rounds. This could also be used for most 308, and hence short action derivative calibres. There is also a Kwik Klip kit for the Remington 700 long action, which would suit 6.5x55 (Swede) and similar cartridge shooters.

HS Precision 308 Magazine Kit

Kwik Klip Long Action Kit

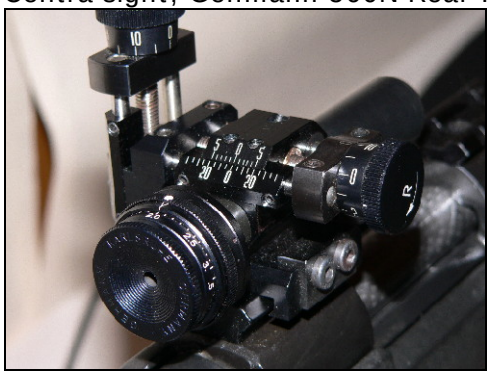
Rear Sights:

Rear sight choice was initially as simple Central Sight, but local availability of the modern version which can take the modern 9.5mm diopters was a problem.

Overseas options are the RPA Trakker and Centra. I was able to get the Centra with a weaver mount, and went for it. It comes with ¼ minute of angle clicks for elevation and ½ moa for windage. There is a huge amount of both vertical and lateral travel.

I wanted weaver mounts so that I could get some versatility by swapping sights with my .308, and using a scope on the .223. I may never do it, but it's an option.

Centra sight; Gehmann 560N Rear Iris



Side view with shade tube & polariser

Front sights:

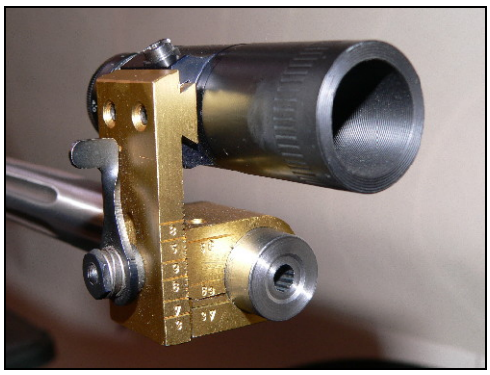
Initially I used a standard sight base for .750 barrel band. It was too low, and so the hunt for height began. I managed to find a locally made McRorie front sight base which worked fine.

However I wanted a higher eye position on the rear sight, which requires more height at the front. Herb McRorie made up one 25 verniers higher (5 moa).

I also tried the RPA Texas Tall Boy and Tall Boy front sights. They are superb, but too high for my setup. To adapt fro the Tall boy, I'd need to add height to my rear Weaver base, and then probably my cheek piece. It's all a knock-on effect.

I chose the Gehmann 520C front sight aperture. It's adjustable for aperture size, and can be used with a sight shade, Eagle Eye magnifying Lens etc.

McRorie standard front base



Texas Tall Boy, tall boy, McRorie

RPA Tall Boy

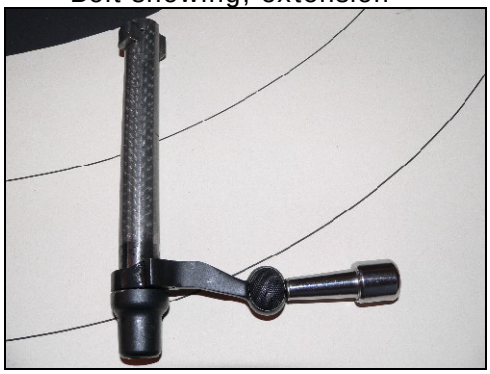
RPA Texas Tall Boy

Bolt:

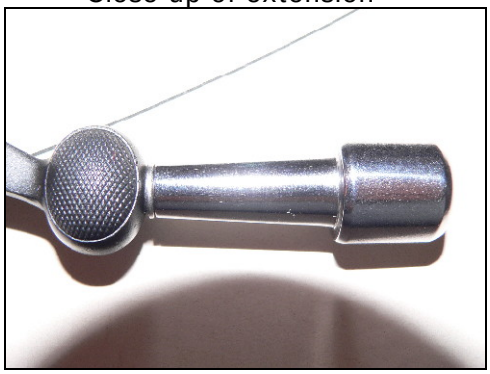
I found the standard Remington bolt handle to be too short, and difficult to use in the rapids, as it was too close to the rear sight.

An aluminium bolt extension was turned, and threaded to screw into the end of the bolt. It's removable when not needed. Now the effort taken to move the bolt is greatly reduced, and I can do it without changing my cheek position on the stock.

Bolt showing, extension



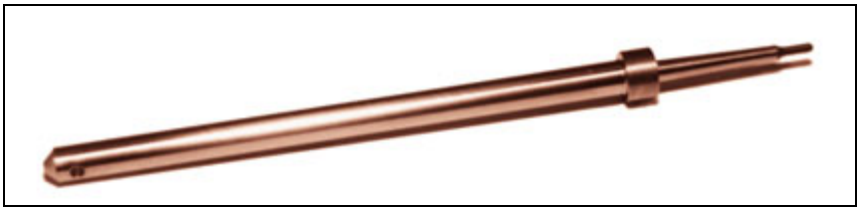
Close up of extension



Trigger and firing pin:

I have read what David Tubb has said about lock time, and a good combination of trigger and firing pin is a desirable feature.

I chose the Rifle Basix trigger (8 ounce to 1.5lbs), and the Tubb Speedlock lightweight firing pin.

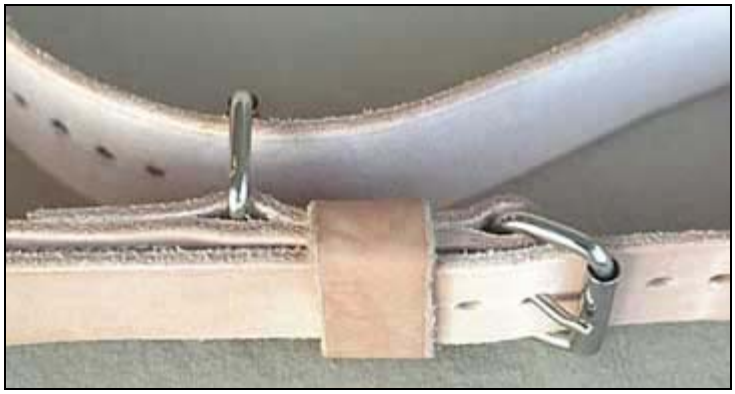


Basically, it substantially reduces the time from brain signal to bullet leaving the barrel. Even though it's all in milliseconds, that barrel does move, especially when standing in Malabar gale.

Sling:

I chose the Tubb leather competition sling. It fits very well, does not transmit pulse and is broader than most service slings.

Close up of Tubb sling buckles



The sling is single point mounted onto a basic Anshutz type front handstop.

Some variations on the theme:

These are some pics of the Remington 700 TWS in 308. The scope has been removed and replaced with the same match sights as the 223 rifle, above. The stock is the same stock as used in the 223.

Reloading will be via HS Precision detachable 10 round magazines, cut down to 5 rounds.

Picture of HS Detachable Magazine on Police Sniper rifle.

Accuracy International of the UK make the excellent AICS stock and magazine system for the Remington 700.

These pics show the Rem 700 in 308 in the AICS stock with the 5 and 10 round magazine options.

Acknowledgements:

This could never have happened without the advice of Dave Waters, Bob Faunt and Peter Barnier, to whom I'm very grateful.

However, it is the gunsmith work of John Waters that really has put the core functioning and final touches to this project (as it stands). It is for his exceptional contribution, when faced with seemingly insurmountable challenges, that I am truly grateful.