

Course Outline: M14 Seminar by Lazerus2000

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In the Nineteen Eighties and Nineties I was a Canadian licensed gunsmith and firearms dealer. I used to do accuracy and reliability tune-ups on the *genuine* US GI surplus M-14 rifles. I'd GUARANTEE 2" groups at 100 yds from my tuned 14s, and of the dozens of these I sold, I NEVER had one returned. I've also worked on dozens more of these type rifles professionally, for paying customers, and more recently as a hobby. This includes removing all the GI parts from several genuine M14 receivers, and fitting and reinstalling these parts on Chinese receivers, to reclassify as Canadian NON-restricted.

I've PERSONALLY owned, tweaked, accurized and modified:

- **3 dozen Genuine US GI surplus M14 rifles**
- **6 dozen Chinese M14/M14S/M305** rifles, from the original 1980's Polytechs and Norincos, through the newer 2007 Norcs, and now the 2009 BELL/Polys.
- **5 Springfield Armory M1A** rifles, ranging from the very best SA M1A SUPER MATCH SS HBAR in a Macmillan fiberglass stock, a National Match in walnut, a couple of standards, and a beat up standard I completely rebuilt into a match rifle

These days, since I had my eyes lazed, I am no longer capable of serious accuracy with iron sights, and I do not do any more target shooting. My personal M14s are all shorties, set up for fast handling, and CQB.

Seminar Philosophy

These seminars are designed to share information with M-14 owners, of whatever brand, so that they can *competently inspect* and evaluate their personal M-14 type rifle, and *make sound judgments regarding safety, upgrades, and value*, and also to *provide a realistic perspective on what jobs can be done by themselves [aka DIY]*, and what should be reserved for the competent M-14 experienced gunsmith. Remember, when we speak of "... *competent M-14 experienced gunsmith*".

NOT EVERY GUNSMITH IS AN M14 GUNSMITH!!!!
And we have some pretty horrible M14 horror stories to prove this statement!

Why the M-14? – it's a Canuck thing, EH!

In the late nineteen eighties, several thousand **GENUINE US GI** M-14 military surplus rifles were made available to the Canadian civilian market. These were Israeli military surplus, and some of these M-14 rifles were originally intended for use by Israeli snipers. Most of these Israeli surplus M-14 rifles were in excellent condition, ranging from slightly worn to as new ... or possibly arsenal rebuilt or arsenal refinished.

These genuine M-14 rifles were NOT allowed back in to the US, so Canada became the major market. These 14s were modified on import into Canada [welding the selector switch] and were then classified by the Canadian government as "Converted Auto" [or CA's]. At that time, NO registration papers were involved in owning a genuine US GI M-14. They were treated just like any other non-restricted firearm. You could even legally hunt big game with them. Back then, you could get a "collectors pack" of all four genuine US GI M-14 name brands at around \$ 1000 Can.

Then, in 1992, the Canadian Govt reclassified CA firearms, and made them legally usable ONLY at "*approved*" ranges ... and by this they meant ranges specifically inspected and approved for CA and FA firearms. At that time, not a lot of civilian ranges had this type of approval. This put a big dent in the popularity of the *genuine* M-14 rifles, and many of these "disappeared", or were stripped for parts to be installed on the receivers of the inexpensive and readily available Chinese M-14 clones ... which were still NON-restricted, and legal for hunting, etc.

At present, here in Canada, most military type semi auto rifles are legally restricted to use at approved ranges only. However, *the Chinese semi auto clone M-14 rifles still have no special legal restrictions*. These Chinese M 14 clones are still very economical. All in all, there is no other semi auto full powered military type rifle on the civilian market that can do what the Chinese M-14 can do, at such a bargain price. With a bit of tweaking, the Chinese M14 makes up into one of the most PRACTICAL rifles available at any price. For a low cost civilian defensive rifle, or SHTF rifle, or hunting rifle, the

Chinese M-14 clones stand out as the best bargain available ... *Especially if you are willing to do a bit of work yourself.*

Based on my experiences as an Infantry Officer, competitive "practical" shooter, outdoorsman, and professional gunsmith, I have some hard earned opinions on "practical" rifles. For those who choose a Main Battle Rifle [**MBR**] as a practical rifle, rather than one of the lighter, and lighter powered, "Assault Rifles" [**AR**], there are some compromises that must be considered. The MBR has the power, reach, and versatility to handle more diverse situations, while the AR is optimized for one primary role ... Close Quarter Battle. This is why the more versatile MBR might be the ultimate "practical" rifle for many shooters. Those that choose a full sized "Battle" rifle must be willing to carry the *heavier* firearm and the *heavier and more powerful cartridges* that go with it, which will perhaps rule out the MBR for some scenarios, and some users. But, for those willing to tote the weight of an MBR, the M-14 platform is a great choice.

If you want better CQB performance from the M-14, there are several alternatives and options that can improve the M-14 ergonomics, making it quicker and handier, while still retaining the long range accuracy and power. My personal favorite "practical" rifle is an M-14, with a *forged* Chinese receiver, a few US GI M-14 parts, an 18 3/4" barrel, compensator, and custom front sight, in a GI stock I've converted into a folder. It is quick, convenient, fairly light, and with the short barrel and modified straight line/pistol grip stock, it is nearly as fast to shoot as an AR

However, in the CQB role, no full powered/heavy MBR can ever be as fast as the smaller /lighter/less powerful ARs . The 7.62 NATO AMMO IS SIMPLY TOO POWERFUL for best results at fast multiple shots. One option is lower powered .308 Win ammo, like the HORNADY TAP, or perhaps reloading to lighter specs. With the wide range of ammo available in both 7.62 NATO and .308 Winchester, changing ammunition can add tremendous versatility to the already versatile M14 platform. Remember, you can always load down a big powerful cartridge, but you usually can't load up a smaller one.

With 7.62 NATO ball ammo and iron sights, my shorty 14 will hold 2-3" at 100 yds, and will hit hard as far out as I can see. I can hit a hanging gong [oxygen cylinder 12"X36"] at 335 yds most times from offhand, and every time from a rest, as fast as I can aim and shoot.

What more do you need?

Why DIY? When to DIY? and when NOT to DIY?

DIY saves money. DIY can be fun. And if you DIY, you know what you are working on way better than the man who buys his toys, without ever digging in. So, DIY may be a very good thing for you. You trade your valuable time for your valuable \$\$\$\$. Only you can judge the values of each. BUT, like the great philosopher Red Green says, "If you can't be handsome, be handy". And if you aren't handy, and are man enough to admit it, then another great philosopher, dirty Harry Callahan says, " a man's got to know his limitations".

If you are not a handy kind of guy, find a professional M14 gunsmith and pay him what he is worth.

M-14, M 305, M14S, M1A, US GI M-14 Inspection FAQs

This is an FAQ about what to look for when you get your brand new Chinese M-14 or Springfield Armory M1A or well used genuine US GI M-14, or well used M14 clone. Even though a properly built M14 in good condition can be one of the most reliable mechanical devices known to mankind, and even though the manufacturer of a new rifle, or the seller of a used rifle, always says that everything is just fine, it is always a good idea to check over any new to you firearm for your self.

Common issues with NEW out of the box M14 clone rifles, Chinese or American, include:

- headspace greatly exceeding SAAMI specifications for .308 Winchester commercial ammunition, even though the firearm may be clearly marked as .308 Win
- bolts that may be bearing on only on lug
- barrels indexed so far off, that this is immediately obvious to any cursory inspection.
- bolts that are soft or cast or both, and spit out the extractor after the first few round
- improperly hardened or cast internal parts that wear or break within a few rounds

The only reasonable conclusion we can reach is that, no matter what the glowing Quality Control checklist that comes with the rifle may say, the suppliers do NOT do even a cursory inspection before shipping you your new rifle.

SAFETY ISSUES

BOLTS

Even brand new, out of the box, the original *Chinese bolt may be poorly fitted at the left locking lug, the bolt may be too soft, headspace may be grossly long for SAAMI .308 Winchester specifications even though the firearm is marked as .308 Winchester. Headspace will usually be too long for reloading .308 Win brass, and bolt timing may be unsafe ... or all of the above.*

Or if you have a new Springfield, the bolt may be cast, again too soft, and the cast bolt may spew your extractors out into the tall range grass with depressing regularity ... *or all of the above.*

Chinese bolts consistently show oversize firing pin holes, and undersize firing pin tips. This makes for a bad combination, where too much clearance can allow tiny brass pieces to trap the firing pin. This is not a good thing so check your firing pin/breech face often to ensure free movement of the pin. At one WET Coast M-14 seminar, we had a bolt that had a bit of brass stuck firmly in the firing pin hole. This is not that uncommon with these rifles, especially if the firing pin hole is worn, or the pin tip is chipped. I will repeat myself - **PAY ATTENTION HERE ... this is definitely not a good thing [aka "INSTANT DEATH or SLAMFIRE"]**.

Because the firing pin is the inertial design, with NO RETACTING SPRING, it is a very good idea to check that firing pin hole regularly, to see if any crud [especially primer shavings] is building up in there. While the firing pin/receiver camming action SHOULD still retract the firing pin even with a bit of garbage clogging the system, this is not something you want to test for your self. A clean rifle is a happy rifle ... and a lot safer too.

Bolt to Receiver Fit What is the left lug doing?

From a safety perspective, bolt lug to receiver fit can be much more critical than headspace. Far too many Chinese M-14 rifles, new and old, have the left bolt lug cut or fitted improperly. If the left bolt locking lug shows signs of being hand ground by a Dremel like implement, *the possibility exists that are you are shooting with only the right locking lug engaging properly*. Even so, most of these bolts don't cause safety problems UNLESS they are also very soft. *If you have a SOFT bolt with a left locking lug that is cut at too acute an angle, in a few hundred rounds the left lug peens back, the bolt face gets cocked, and excess headspace can get very scary .*

With the M-14, which has a very tiny and complicated left locking lug design, the bolt should be bearing EVENLY on BOTH lugs, and the bearing should be maximum. ... especially at that awkward left lug. This is easily seen on a *used* M-14 type rifle by checking the wear patterns on the bolt lugs. On a *new* bolt, use a permanent felt pen [RED is nice] to mark the bolt lugs. With slight rearward tension, work the bolt up and down a few dozen times, remove the bolt, and inspect the wear pattern scraped out of the red ink. What you are looking for is *EVEN wear on the locking lugs, with MAXIMUM bearing on BOTH lugs*, especially that awkward left lug.

HEADSPACE - What should the headspace be on an M-14 type rifle?

**For rack grade M-14 rifles military specs call for:
7.62 NATO GO = 1.6355" [very close to .308 NO GO]**

7.62 NATO Field Reject is 1.6445",

NOTE: " ... to maximize barrel life (with 7.62 x 51 mm NATO ammunition) every effort should be made to keep maximum headspace no more than 1.6375 ".

MINIMUM .308 Winchester SAAMI Headspace aka .308 GO: 1.630"

NOTE: Too tight chambers may actually be detrimental to safety, accuracy, and reliability.

When fitting M-14 headspace for new "Match" rifles, I *first lap the bolt in for proper maximum contact*. Then I try for 1.632" gauged headspace. This measurement is usually capable of turning a STRIPPED bolt all the way down into the receiver, with most brands of NEW FACTORY .308 OR 7.62 NATO ammunition that I have tried. The NEW cartridge should fall easily out of the chamber, and there should NOT be any major chamber marks or deformation.

If your headspace is less than 1.632", you may find the chamber too tight with some brands of .308 Win or 7.62NATO ammo. With chamber length too short, the case shoulder might be squeezed, which can disrupt accuracy and

raise pressure. Plus, with the M-14 "floating" firing pin, *short chambers can increase the risk of "primer dimpling / slam fires"* especially with *most commercial primers, which are softer than military*. Also, rifles with tight chambers may require more cleaning to be reliable. Finally, reloading ammo for tight chambers may require small base dies, case trimming, and careful case preparation.

MAXIMUM Headspace: Negotiable?

When it comes to "real world" maximum .308 Win headspace, **SAAMI FIELD REJECT = 1.638"**. Although I have never personally seen it or read of a documented case, *theoretically*, some commercial .308 Win cartridge cases experience a case separation on the first firing at .308 NO GO. That is the SAAMI theoretical "lawyer proof" limit. That being said, *in the real world, one of my personal Chinese M-14s, new out of the box, had .015" headspace over .308 GO*. This particular rifle also shot a sub-moa group out of the box with factory loaded .308 Win 168 Gr HPBT match ammo. *Here in Canada, with thousands of M-14 type rifles out there shooting with similar or even worse headspace, we have had very few [? ZERO ?] documented cases of excessive M-14 headspace causing case separations with NEW commercial .308 factory loaded ammo.*

Recommendations:

If your headspace is 1.638" - 1.6445", you should use only 7.62x51 NATO mil spec ammo.

If your headspace is 1.6445" or longer, the chamber may be too long for safe use even with mil spec 7.62 NATO ammunition.

Most of the NEW Norinco clones I've checked recently had about .006" - .014" headspace **over 7.62 NATO GO**. When you consider that they are marked as .308 Winchester, and that SAAMI .308 Win GO is approximately .005" LESS than 7.62 NATO GO, you can see that if shooting .308 Win ammo in these lengthy chambers, the SAAMI THEORETICAL safety margins are being exceeded by quite a bit. If you want to reload for the M-14 rifles, or if you want target accuracy, or if you want that extra theoretical safety margin that tighter headspace can give you with .308 Win commercial ammo, then in most cases, the fix is relatively simple [if a bit expensive] ... *just replace the Chinese bolt with a US GI M-14 bolt*. In most cases, with Chinese receivers and barrels in good condition, this takes only a few minutes of lapping in the GI bolt before .308 Win headspace is achieved.

How do I measure the headspace of my M-14? AKA Headspace gauges:

Measuring the headspace on an M-14 rifle is NOT rocket science, but it can be a bit complicated, especially if you don't have all the proper tools and gauges, and know how to use them.

Forster Winchester .308 GO: 1.630"

Military # 7274780B GI "GAGE HEADSPACE" for 7.62 NATO GO: 1.6355"

NOTE: the .0055" extra of the military 7.62 GO is .0015" over the .308 Win NO GO of 1.634"

Also, the GI gage is cut out at the back for the ejector ... to allow you to measure headspace without taking the M-14 bolt apart.

NOTE: the *commercial .308 Win gages are NOT cut out for the M-14 ejector*, which is spring loaded with enough power to launch it clear across your living room into the darkest corner, and into the deepest part of your shag rug. This incredible ejector spring tension will bear directly on any gauge that is not relieved for the ejector, and *trying to measure headspace when the gauge is being forced into the chamber by the mighty ejector spring, and the bolt is being forced into the receiver, is not ...repeat NOT ...accurate.*

If you are using a commercial gage that is not relieved for the ejector on an M-14, then you MUST strip the bolt first before trying to measure the headspace

I have both .308 and Mil Spec 7.62 GO gauges, and find I really don't need any more. With a set of feeler gauges, I can get quick and easy headspace *estimates*, from zero on up to very scary. This method uses the gauge plus the feelers to measure only the dimensions of the gap between the right side of the receiver, and the right bolt lug. *If the bolt is straight, and if the wear pattern on the bolt lugs shows that the bolt is bearing evenly on both sides*, then and only then, you can extrapolate that the left lug has the same gap dimension. If you want more precise measurements, without resorting to a [VERY EXPENSIVE] set of custom head space gauges in .001" increments, you can make a set of spacers by cutting up a cheap set of automotive feeler gauges. Stack them up on your GO gauge, using thin grease to hold them together, and you

will have as close to a perfect measurement as you can get, without resorting to expensive tools.

Receiver Bridge TIMING/Firing Pin

The receiver bridge firing pin retracting surface is responsible for allowing the firing pin to go forward during firing, preferably ONLY when the round is fully chambered and the bolt is fully closed ... or some good safe approximation of the above. It is also responsible for keeping the firing pin tip away from the primer before the bolt lugs are deeply and safely embedded into the receiver locking lugs, and for retracting the firing pin into a safe position when the bolt is opened during recoil. All of this happens pretty quickly, and depends on precise tolerances and timing. It also does NOT depend on springs, so keeping the firing pin channel clean and the firing pin free, is critical to your health.

The receiver bridge primary (bolt closing) firing pin retracting surface can be mis-located. The camming surface of the tang on the firing pin should be inspected carefully for damage. If the firing pin tang is damaged, the firing pin should be replaced with a non-chromed firing pin. With firing pins that are not chromium plated, most of the wear will be on the firing pin instead of the receiver bridge. The harder surface of the chromium plated firing pin will cut a groove into the receiver bridge deeper and sooner. Note that light polish wear is normal on the retracting surface but a groove cut into the receiver by the firing pin is not.

TRIGGER Safety check: test after cleaning and re- assembly:

With no magazine in the rifle, hammer cocked, and safety on, does the hammer follow if you drop the bolt on an empty chamber? Do NOT ride the cocking handle ... just let it fly. Try this again with the safety off to test the *front* hooks on the hammer? Now, *with the trigger held back*, test the *rear* hooks on the hammer by trying this again.

What is the weight of the trigger pull? Measure it carefully ... 4 and 1/2 lbs is the absolute MINIMUM safe weight. If it is less than 4 ½ lbs, then the hammer may follow in some circumstances. ... especially if the rifle is not held tightly against the shoulder. This is called **BUMP** firing.

NOTE: changing stocks on the M-14 rifle can definitely change the way the trigger functions, so *every time you swap the stock on an M-14 type rifle, you should do this trigger group safety check again.*

SLAM FIRES, Hammer Follow and things that go BUMP!

Aka BAD THINGS CAN HAPPEN ... even to good people like you!!

BUMP fire, or “*doubling*” may happen with an M14 rifle that is not held tightly when fired. Just *after* a round is chambered, the hammer follows when the trigger is “bumped” off inadvertently by the trigger finger. ***Holding the rifle tight into the shoulder and pulling the trigger all the way back will minimize doubles***, but if this happens more than once, you want to check the trigger as well.

Hammer FOLLOWING,

Aka poor man’s full auto,

Aka ***potential KABOOM,***

can happen if an M14 trigger pull is SET too light [as in less than 4.5 lbs],

or if the hammer/trigger interface is worn,

or if the stock has been changed,

or repainted,

It can also happen if the bolt is too small at the rear, or the hole in the receiver bridge is too large, or the hammer cocking surface is worn too far. Too much clearance here allows the bolt to ride up too high, and not press the hammer down far enough to catch the trigger hooks.

That is why you should always perform the after cleaning safety function test every time you take the action out of the stock.

The much more dangerous ***SLAM fire, aka the KABOOMEN!!*** occurs where an oversized reload, a soft primer, a stuck firing pin, a tight chamber, a too long firing pin, or improper receiver bridge/firing pin timing, or ALL OF THE ABOVE, combine to set off a round **before** the cartridge is fully chambered. The unsupported cartridge goes KABOOM, and usually the rifle disassembles itself, to various degrees. Occasional side effects may include blindness, deafness, missing body parts, or death.

Try to avoid all of the above if at all possible. And no, bump firing as fast as you can to make a LOT OF NOISE AT THE RANGE is NOT “cool”. It is in fact pretty stupid – and dangerous.

FIELD INSPECTION – hands on

Norinco VS Springfield ... a Canadian perspective

Norinco M14 rifles are made primarily of **FORGED** parts, with *excellent dimensional tolerances*, but *with some possible variations in heat treatment and assembly*. In Canada, if you buy your new or used Chinese M-14 from a reputable dealer, you will probably have some type of warranty. The vendor may also have some spare parts, and a repair/maintenance service, to keep your Chinese import shooting as long as you want. With the recent explosion in popularity of the Chinese M-14 type rifle in the Canadian market s, there is a wealth of information, accessories and services available in Canada to support these fine firearms.

If you view the Norinco [M-305 or M-14 or M-14S] as nothing more than a stripped FORGED receiver, with very close to US GI dimensional specifications, you can never go wrong. Think of all those extra parts that come attached to the receiver as [mostly usable] free bonuses. If you like a hands on do it yourself project, get a Chinese M-14. Simply do a bit of tuning, add the requisite US GI parts, and you have one of the best rifles available, and at only 1/3 or so of the cost of an equivalent Springfield M1A.

BUT,
for those who don't want to get their hands dirty working on their own rifles, or who don't want to pay for a gunsmith to do it for them, the American made [?mostly?] Springfield M1A can be a very good choice. Springfield offers a lifetime warranty on the M1A. Unfortunately, **this lifetime warranty may be available ONLY in the US**, and even more unfortunately, **this warranty may be required even on a brand new Springfield**. In my experience [and in many other M1A owner's experience] there may not be much difference in quality control between the new US and the new Chinese made versions.

There have been considerable complaints that many of the **M1A CAST receivers** are not correct dimensionally. Aside from the CAST receiver, new Springfield M1A rifles no longer use as many surplus US GI internal parts, and in their place, SA has turned to more cast parts, of varying quality, from various suppliers. At an M14 seminar I taught recently in the US, most of the rifles that showed up were M1As. And most of them showed one or more of the common M1A issues. Even the brand new M1A that had just come back from SA service, fitted with a well worn GI bolt as replacement for the original notorious cast bolt, showed that the bolt was simply dropped in, with no attempt made to get proper lug bearing. And we won't go into another story about an LRB built rifle that needed more fitting before it was usable at all. So almost every aftermarket M14 clone, whatever the source, might need some tweaking before it is perfect.

Springfield Armory, Inc. M1A rifles may have some or all of the following deficiencies:

- 1) The receiver scope mounting hole and mount surfaces may be out of specification, which makes fitting non-adjustable scope mounts difficult.
- 2.) The receiver bridge primary (bolt closing) firing pin retracting surface can be mislocated. The camming surface of the tang on the firing pin should be inspected carefully for damage. If the firing pin tang is damaged, the firing pin should be replaced with a non-chromed firing pin. With firing pins that are not chromium plated, most of the damage will be on the firing pin instead of the receiver bridge. The harder surface of the chromium plated firing pin will cut a groove into the receiver bridge deeper and sooner. Note that light polish wear is normal on the retracting surface but a groove cut into the receiver by the firing pin is not.
- 3) The bolt may be cast, and have cast parts. These cast bolts are not top quality, and especially have a bad habit of losing the extractor
- 4) The left locking lug engagement surface in the receiver is slightly misaligned. Lapping the bolt to the receiver can usually resolve this, and is recommended to evenly distributes stress on the receiver.
- 5) The bottom of the bolt roller makes contact with the receiver when the bolt is in battery, preventing the bolt from closing completely. The fix is to grind a half round relief cut into the receiver, to accept the bolt roller when fully locked in the down position. This will save replacing the bolt or bolt roller, which otherwise could be destroyed rather quickly.
- 6) The receiver groove that takes the tab of the op rod may be undersize, rough, vary in size, and not cut straight. This can

cause rough functioning, unreliability, quick wear on that tiny op rod tab, and op rods eventually jumping out of the track. This also can cause extra work when properly fitting a replacement GI or Chinese op rod with an unworn, full size tab.

7.) The receiver rear sight elevation knob indexing detents wear prematurely due to too soft surface hardness. The fix is to install an elevation repair disk.

8.) The holes for the bolt lock pin are too small. The bolt lock roll pins could be forced in which may cause one of the bolt lock window tabs to break. The simple solution is to use a slightly smaller diameter pin.

9.) Some of the earlier Stainless Steel barreled “loaded” rifles, had the chambers cut TOO FAST = very rough = reamer chatter = poor extraction and reliability.

10.) The rear sight pocket is slightly too short. This results in a slight over hang of the rear sight base at the rear.. This springs the rear sight cover more than it should. The front edge of the cover can be lightly filed down, which requires less force to install the rear sight cover.

NEW Chinese M-14 rifles VS OLD Chinese M-14S or M305 or BELL/POLY

I make a distinction between the OLD Chinese M-14 rifles, Polytech and Norinco, and the NEW Chinese M-14 rifles. The OLD Chinese M-14 clones came in to Canada and the US before the US assault rifle ban. The NEW Chinese M-14 clones are all Norinco, or the new 2009 BELL/Polytech. Over the years, these have arrived in Canada in various batches ... most recently Aug 2009. These NEW 14s are slightly different and potentially better than the OLD. However, ***Chinese quality control varies considerably amongst individual rifles.*** Some of the old Chinese M-14 rifles were as good as it gets right out of the box, and can give years of safe, reliable service. Unfortunately, some of the Chinese M-14 rifles, new or old, can become unsafe to fire within a few hundred rounds.

To me, the most significant difference between the NEW and the OLD Chinese M-14 rifles is that the NEW batch of Norincos will usually take a “drop in” GI bolt. This was definitely NOT the case for the older Chinese M-14 rifles, Polytech and Norinco alike. On most of the old ones, ***the barrel hood protruded into the receiver about .010” too much***, so that a GI bolt would require massive amounts of lapping in to fit up properly. So, for these Chinese M-14 type rifles, you usually ***needed to swap in a GI barrel, or do other major mods when swapping in a GI bolt.***

The next important difference is that the NEW Chinese M-14 rifles all seem to have the ***flash hiders permanently attached***. This matters primarily if you want to swap out or work on the gas assembly, and /or swap to different style flash hiders or compensators. Taking off a welded on flash hider is NOT a trivial job. Also, the NEW batch has the tiny barrel retaining screw MEGA-torqued down, then MEGA-STAKED in. Getting this screw out is again non-trivial.

Another consideration between the NEW and the OLD Chinese M-14 rifles is that the NEWER batches of Chinese 14s, in some cases, MAY have significantly improved quality control. I say “MAY”, because, the bolts may still be fitted improperly, and may have way too much headspace. Also, on a sad new note, while I never saw a major misalignment of the barrel / receiver in the OLD models, this misalignment [aka misindexing] is epidemic with the NEW 2007 NORCs and the newest 2009 BELL/Polys.

Known Chinese Norinco / Polytech M-14 / M-14S / M-305 / BELL/Poly deficiencies

First thing to understand about the Chinese M-14 clones, whatever manufacturer, and whenever they were made, is that ***Chinese quality control varies considerably amongst individual rifles.***

While the Chinese FORGED receivers are usually closer to US GI dimensional specifications than most commercial receivers, with the Chinese M-14 clones, ***heat treatment and quality control during assembly of the fitted parts may vary considerably.***

In my personal sampling [several dozens] careful inspections have found MOST [about 2/3] of the Chinese M-14 rifles to be good to excellent overall, or else they could be made into great rifles with a bit of effort, and some US GI parts. I have also found a few receivers that were a bit softer than desirable, but these would still make safe and reliable shooters ... they just might wear out a bit earlier. I also found ***one Chinese M-14 receiver that was heat treated too hard [as in BRITTLE]***. This one was unfired, sold as a stripped receiver only, and it shattered while being fitted with a barrel. This was fortunate, as a receiver that is too hard is much more unsafe than one that is too soft, and without proper test equipment, is

very difficult to detect.

This is why it is so important that the end user has as much knowledge as possible when buying any M-14 type rifle. A careful inspection can determine if you are getting a silk purse, perfect as is, or a sow's ear, that will require lots of money and labor to get right.

1) Even brand new, the original ***Chinese bolt may be poorly fitted at the left locking lug, the bolt may be too soft, headspace may be grossly long for SAAMI .308 Winchester specifications even though the firearm is marked as .308 Winchester. Headspace will almost definitely be too long for reloads using .308 Win brass, and bolt timing may be incorrect. ... or all of the above.***

If you want to reload for the M-14 rifles, or if you want target accuracy, or if you want that extra safety margin that tighter headspace can give you, then just replace the Chinese bolt with a US GI M-14 bolt. In most cases, this takes only a bit of lapping in before tight .308 Win headspace is achieved. This well known and too common defect in clone M14 rifles, is why a USGI bolt swap is such a great idea. USGI bolts go for about \$ 300 these days, and a \$300 upgrade to a \$500 Chinese rifle may not make much sense ... until you consider that with a few minutes work lapping the bolt to the receiver, and a few other bits, you can end up with a Chinese / US GI crossbreed that is totally reliable, and as good a shooter as a Springfield M1A that costs several times as much. And that brand new expensive M1A might still need a new GI bolt to replace a cast bolt.

2.) The barrel may be incorrectly indexed to the receiver. If the front sight leans to the left, and the rear sight is adjusted to the right to compensate, then the barrel has been over-tightened. To correct this, the barrel must be removed, and the barrel shoulder must be rolled back to replace the metal distorted by this over-tightening. Since proper alignment, torque, and fit of the barrel shoulder to the receiver is critical to accuracy, this is not a trivial fix.

If the front sight leans to the right, and the rear sight is adjusted to the left to compensate, then the barrel is under-tightened. This is not as serious as over-tightening, as in most cases all that is required is to remove the little lock screw under the op rod at the receiver/barrel, and using the proper tools and torque specifications, tighten / rotate the barrel to the proper location. This is what is known as "INDEXING" the barrel

3) The ***Chinese op rod spring is undersize in diameter, and usually will not last as long as a US GI spring.*** Replacement with a US GI spring, even a well used GI spring, is the very first upgrade any Chinese M-14 owner should consider. NOTE: the Chinese op rod springs are smaller in inside diameter than the US GI springs. If fitting a US GI spring sized round style op rod spring guide, the Chinese springs may bind and cause reliability issues.

4) The hammer, trigger and sear may be soft, and also may require a lot of fitting to get a safe trigger, with no creep, and a decent pull weight. The trigger pin and the hammer pin, as well as being soft, may also be undersize. An undersize pin that wears out of round quickly, does not contribute to a good trigger pull.

5.) The Chinese wood stock is made of mystery wood ... some are as soft as balsa. This wood will compress under tension, or may swell when wet, and the result may be a trigger mechanism that is unsafe = the hammer will follow the bolt down if the trigger is held back during cycling, or also have an effect on fit when latching in magazines.

6.) The Chinese rear sight mechanism may be soft, and wear quickly to the point where adjustments are not possible, or won't stay set. Again, replacement with US GI parts will fix.

Detailed inspection ... front to back

1.) Flashider: Is it welded on? Is it loose? Is the castle nut on tight and locked in place by the set screw? Is the set screw loose.? Is the FH on straight? Can you see any indications that bullets are hitting the FH? Has it been reamed to NM specs? Is it cast? Is it cracked? Is it pitted and corroded? Does it have a bayonet lug? Does it have slots, or is it completely closed? Does the rifle "Pinggggggggggg" when the bolt slams forward on an empty chamber?

2.) Front sight: is it straight = vertical or is it rotated to one side or the other, indicating expensive reindexing? Is it loose? Is it square at the top? Is it set way off to one side? Is the sight retaining set screw there? Is it the narrower NM sight? NOTE: some perceived barrel indexing issues are not the barrel at all ... some flash hidere have the splines cut off center / at an angle, or the front sight dovetail cut at an angle.

3.) Barrel: is it on straight? Is it tight to the receiver? Is the op rod guide tight? Is the op rod guide aligned correctly so the op rod meets the gas piston center? Is the bore chromed? Pitted? Is the chamber smooth ... or are there reaming marks visible in the chamber?

4.) Gas Assembly: is it loose = rotation? Slides back and forth? Is it misaligned? Is the gas assembly plug tight? Does the gas assembly line up with the hole in the barrel? Is the gas turn off valve vertical or horizontal? Is the bore of the gas assembly corroded or worn? Does the piston move freely and smoothly? Is the piston chipped or peened? Is there carbon built up inside the gas assembly or the piston? Does the ferrule rattle? Does the hand guard ferrule tension correctly to the stock?

5.) Op rod: **Chinese op rods are forged in one piece**, same as the best US GI TRW op rods. Chinese op rods are usually good for hardness. Check for tab wear, bends, and cracking? Springfield op rods are often US GI, but if not, they may be cast, and vary considerably in quality. US GI op rods mostly are now well worn, and rewelds from scrap pieces may be on the market. Check the weld on any two piece US GI op rods for cracks and voids. Check for bends, and that the op rod runs straight in the receiver groove?

6.) Receiver: Field test check for softness ... run a file lightly over some hidden spot see if file catches and cuts easily ... if so, this receiver is too soft for long term durability. Reheat treatment may be desirable. Look for any obvious burrs, cracks, or rough spots? Some of the NEW Chinese receivers have the top of the receiver right locking lug corner cut square [and sharp enough to cut yourself]. This corner should provide a smooth transition between vertical to horizontal motion, and should be softly rounded and smooth. Some of the OLD Springfield Armory M1A receivers do NOT have enough clearance under the bolt roller, to allow the bolt to close completely. This will slam the bolt roller between the receiver and the op rod ... which is not a good thing. Simple solution for the sharp right lug corner, and no bolt roller clearance ... a Dremel with a 1/2" wheel. Also check at the rear, where the tang of the firing pin rotates against the receiver ... is there a groove worn into the receiver by the tang?

Other than the above, checking the receiver for proper dimension is a job for a professional with the right tools. However, every Chinese receiver I've personally inspected was as good or close to US GI dimensions. Odds of you getting a bad Chinese receiver are very slim. If this is a cast commercial receiver, odds of getting some dimensional variations are very high. Whether these variations will significantly effect performance is again best left to a professional to determine. As an example, with the last Springfield M1A receiver I built up into a full house target rifle, the bolt lapping with a NEW GI TRW bolt took about 30 minutes to achieve proper bearing on both lugs. It also took about 3 hours to fit a near new TRW one piece op rod. The final product was as good as it gets, but it did take a LOT longer to fit the GI parts, than would be usual with a Chinese FORGED receiver.

7.) BOLT: inspect the left locking lug ... does it look like it was hand ground with a Dremel tool? If so it may not be properly fitted to the left locking lug. On a used bolt, check the wear patterns. On a new bolt, get some RED permanent marker ink on the lug surfaces, and inspect the seating. Does the bolt engagement provide maximum bearing evenly on both lugs? Extractor fit? Ejector spring tension? Firing pin protrusion? Timing? firing pin tang wear ?

Test fire ... go to the range and load only two rounds in the magazine ... test fire one round ... see if the rifle doubles? eject the second round from the chamber and look at the primer dimpling? ... yes, the M-14 has a floating firing pin, with no spring to keep it away from the primers. Yes, this is scary, but on a properly set up M-14, using proper ammunition, you will not get a slam fire.

Chinese bolts consistently show oversize firing pin holes, and undersize firing pin tips. This makes for a bad combination, where too much clearance can allow brass pieces to trap and immobilise the firing pin. Because the firing pin is the inertial design, with NO RETACTING SPRING, it is a very good idea to check that firing pin hole from time to time, to see if any crud [especially primer shavings] is building up in there.

8.) Rear Sight: Is the rear sight tight, or does it move around a lot if you wiggle the aperture arm? Is the hole in the rear sight centered? Does the rear sight move up and down? Does the rear sight adjust left to right? Does the sight stay set ?

9.) Trigger group: does the trigger group lock in with a bit of spring [about 1/2" of tension]? Does the safety lock the firing mechanism when engaged? Does the safety move with correct tension? With no magazine in the rifle, hammer cocked, and safety on, does the hammer follow if you drop the bolt on an empty chamber? Try this again with the safety off to test the front hooks on the hammer? Now, with the trigger held back, test the rear hooks on the hammer by trying this again? Is the trigger pull creepy? What is the weight of the trigger pull? Measure it carefully ... 4 and 1/2 lbs is the MINIMUM safe weight. If it is less than 4 1/2 lbs, then the hammer may follow in some circumstances. ... especially if the rifle is not held

tightly against the shoulder.

NOTE: changing stocks on the M-14 rifle can definitely change the way the trigger functions, so every time you swap the stock on an M-14 type rifle, you should do this trigger group safety check again.

At the range, after performing test firing for test # 7, load five rounds ... hold the rifle loosely ... and fire all five rounds. With the rifle held loosely, did it double ... or worse yet, run away with the whole magazine?

10.) Magazine: Pinned correctly to meet Candian firearms laws to 5 rds ONLY? Latches in the receiver tightly? Bent lips? Dents? Follower? Spring?

11.) Stock: Is the receiver tight to the bedding lugs? Receiver tight at top rear bedding surface? Does the receiver slide back and forth in the stock? Are the bearing surfaces for the trigger guard compressed in? Does the trigger guard lock in with correct tension? Is the front of stock tight against the ferrule? Ferrule greased? Hand guard cracked? Loose? Clearances at top of fore stock? Butt plate bent? If using a GI stock with a clone, has the connector lock pin been replaced with a longer one, or has the stock been padded to keep the shorter commercial connector lock from shuffling out? If using a Fiberglass GI stock, does the butt plate have the correct top screw, nut and nut retainer?

12.) Accessories: did you get a complete cleaning kit? Have you looked in the butt trap? Did you get a sling? Bayonet? Spare Magazines?

Tweaks and Tricks

Recommended Chinese M-14 Modifications

Above the cost of a basic/box stock Chinese rifle [approximately \$ 419.95 – 519.95 Canadian before shipping/taxes] the costs to do up a Chinese M-14 *properly* are approximately ...

REQUIRED:

\$ 150 - Gunsmith inspection to check headspace, bolt fit, tighten, reindex, and fix other issues.

\$ 10 – US GI op rod spring

OPTIONAL [in order of importance]:

\$ 130 – US GI Fiberglass stock

\$ 20 - long op rod guide retaining pin [or modify GI stock for short pin]

\$ 45 - SS one piece round/match op Rod spring guide

\$ 50 – trigger job with stock Chinese parts

\$ 80 – replacement US GI rear sight, M-14 or M1 Garand

\$ 300 – US GI Bolt [usually required for use with .308 commercial ammo]

NOTE: some of the OLD Chinese will NOT take a GI bolt without also using a GI barrel

\$ 250 – US GI Barrel

\$ 50 ea - MAGS 20/5 - Chinese or \$ 90 ea - USGI MAGS

\$ 70 - US GI Hammer, trigger, and pins

After that, the sky is the limit.

Shorty / Bush / SOCOM estimate

Additional costs to do up a shorty are approximately :

\$ 75 - shortening barrel

\$ 75 - threading muzzle for flash hider and installing AR 15 type FH

\$ 85 - front sight that fits on the gas assembly [Gas Ring Front Sight] NOTE: the gas lock threads are METRIC on the Chinese barrels, so a METRIC GRFS is required

\$ 85 – .30 Cal Compensator, or slightly less for universal fit AR style flash hidere

Accurising the M14 as a “Target” or “Sniper” rifle - National Match requirements

Many people seem to have unrealistic expectations of the M-14 as a target or sniper rifle. Realistically, many cheap bolt action rifles [such as a Remington 788 or Savage 110] will be more accurate than a totally accurised full house M-14,

costing thousands of dollars to build. Keep that in perspective when throwing money into an M-14.

Accuracy expectations for the original US GI M-14 were not all that impressive. Every rack grade M14 rifle had to group within 5.6 " at 100 yards with five rounds of M80 ball ammunition. For the fabled National Match M-14 rifles, accuracy requirements were still not that impressive. M14 NM rifles were required to group no more than 3.5 " on average at 100 yards after three ten shot groups using M118 match ammunition. The maximum group size allowed for any single round of ten shots was 5.0 "

How accurate should your M-14 rifle be?

With a *slightly tweaked* US GI M-14, with a decent trigger job, in a GI glass stock, with a chrome lined GI barrel, with 168 Gr HP BT Match ammo, with iron sights, I've witnessed a 100 yd. ten shot 3/4" group. Every unmodified, good condition rack grade M-14 rifles should produce under 3" with decent ammo. Spend your money on GOOD ammo and a GOOD scope mount. Then [and only if you can outshoot what you have] spend money on "accurizing".

Accurizing the M-14 ... you CAN do much of it yourself

The M14 type rifles can be incredibly sensitive to variations in ammunition. I've seen the same rifle shoot sub-MOA with one load, and 3 – 4" with a different load. For the average M-14/M1A, if in otherwise good condition, *the most cost effective improvement in accuracy is to buy lots of different brands and types of practice ammo.* Buy a few boxes each of as many different brands of ammo as you can find. You might find that with a certain brand of ammo, your *unmodified* rifle shoots as well as your neighbor's wayyyyy more expensive match version. Once you find what your rifle likes, buy cases of it and shoot it.

The most important thing you need to accurise your M1A/M-14 is information.
Buy the Kuhnhausen manual ... it has everything you need to know.

The M-14 is a complicated system, and changing any single component of the M14 can effect other parts of the system in strange and unexpected ways. However, speaking *theoretically*, anything that improves **CONSISTENCY** should improve accuracy. Stiffening the barrel by shortening the length, increasing diameter [HEAVY barrel], fluting, cryo treating, etc, all minimize the vibrations and minimize overall barrel whip. And theoretically, these changes to the barrel configuration should improve accuracy.

Then there are the systems that *mount the receiver more solidly, with more rigidity.* The JAE design uses *an aluminum bedding block and threaded screws to provide consistently repeatable receiver/stock tension.* Other designs use other methods to improve overall receiver/barrel rigidity. The AKM uses a so called "*free floating*" barrel, *which adds another mounting point for the barrel at the op rod guide, and deletes the forward barrel mounting/tensioning point at the forend.* Personally, I am experimenting with "free floating" the M14 barrel, using a modification of the AKM design [bottom tensioning with screws and spacers to a rigid aluminum channel .

Here are a few accurizing tricks and tweaks you might be able to do yourself:

- 1.] Trigger job that is CLEAN. Weight is not as critical as eliminating creep. *I advise buying spare trigger and hammer and pins before starting any DIY trigger job.* And if you are buying spare trigger parts, NEW US GI Garand parts are available from Italy. After you practice on the cheap, soft, out of true Chinese parts, then would be a good time to try your hand with the US GI parts. Good luck with that!!
- 2.] If you see well enough to stick with iron sights, a slimmer NM *front* sight will help with a better sight picture. These are especially useful on the shorties, which have a correspondingly shorter sight radius, which makes the already too fat front sight seem even more humungous. A NM *rear* sight won't improve your shooting all that much, and is QUITE expensive.
- 3.] Tightening the gas assembly to barrel spline fit takes only a few minutes, and can increase accuracy a bit.
- 5.] Check the op rod guide for tightness to the barrel, and for true. Many of these are loose, and play or misalignment here affects consistency on recoil and reload, which can affect accuracy. A little Red loctite here can make a difference, and again takes only a few minutes.
- 6.] Recrown the barrel ... lots of barrels have been nicked at the crown. This is not really an easy fix, and if you have a

chrome lined barrel [which is harder than most tools] it probably won't be cheap. But recrowning is much cheaper than rebarreling, and may improve accuracy significantly.

7.] GI Bolt replacement ... if after reading this far, you still have concerns about headspace, or if you want the very best parts in your M-14 rifle, get a US GI M-14 bolt in good used or new condition, and have it properly fitted. Most GI bolts will fit most NEW Chinese receivers with a minimum of lapping, and with the original Chinese barrels, will achieve tight .308 Win headspace.

8.] Barrels ... most of the Chinese barrels are capable of the same fine accuracy you would expect from a genuine US GI barrel. However, I have seen a few *Chinese barrels that were too soft, which makes for a light or erratic draw, stretched threads, and potentially, a barrel that could shoot loose*. If your barrel is loose, or doesn't shoot accurately, or if you have one of the older Chinese rifles with the barrel hood too long, then replacing the barrel along with the bolt may be a very good investment. US GI barrels are chrome lined, can give very good accuracy, and will last a very long time. Some commercial barrels may not be chrome lined, but these will usually also have short chambers, to allow precise reaming to achieve perfect headspace. The extra work reaming the chamber may be worth it for some rifles, which will just not stack up right to desired headspace in any other way.

9.] Unitizing or shimming the gas assembly, and match gas piston and cylinder ... while many people swear by these, I personally feel they are a complicated solution to a non-existent problem. Once again, some of the best shooting with the M-14 rifles that I have personally seen, was done with standard parts in good condition, only slightly tweaked to fit properly.

10.] Custom stock ... DIYers can fill yur boots here!

I have made up a few folding stocks for the M-14. Most of these were made using US GI WOOD stocks, and Butler Creek shotgun folders. The Butler Creek shotgun side folders are hard to find up here in Canada. If I could get the ACE side folders up here in Canuckistan, I would use these as well as the Butler Ceeek, as the ACE folder mechanism is IMHO, a better design.

The one time I used a Chinese stock [Balsa??] for a folder = the one time I had a folding stock returned due to breakage. The owner [280 lbs] dived into rollover prone, with the folder extended, and the thin 2 1/2" drywall screws popped right out of the very soft wood. It was easily fixed with MORE epoxy and BIGGER screws, and he still has that stock, but I don't recommend putting all that work into a Chinese "mystery wood" stock.

If attempting a DIY folder with a GI glass stock, note that there is a metal insert embedded in the glass at the pistol grip - so don't use Dad's favorite miter saw for the job. Also, the GI glass stocks are built around a foam core, so much of the foam needs to be removed at the new joint to provide a strong bedding surface for the folder mechanism. This is a LOT of extra work, so if a decent GI wood stock is available at a reasonable price, use the wood .

Bits and Pieces

If you like gadgets, you can buy many wondrous and expensive devices to modify the handling or improve the accuracy of the M-14 system. But once again, be advised, most likely the weakest link in an M-14 is probably the loose nut pulling on the trigger. Before spending BIG \$\$\$ on parts, spend your money on GOOD ammo and a GOOD scope mount. Then [and only if you can outshoot what you have] spend money on "accurising" parts.

The M14 type rifles can be incredibly sensitive to variations in ammunition. I've seen the same rifle shoot sub-MOA with one load, and 3 - 4" with a different load. For the average M-14/M1A, if in otherwise good condition, the most cost effective improvement in accuracy is to buy lots of different brands and types of practice ammo.

First, and probably the most important piece you can buy to improve your accuracy with your 14, is A GOOD scope mount.

If you decide to scope your M14, the mount is MUCH more important than the scope.

There are a LOT of crappy scope mounts out there for the M-14/M1A, and few really good ones. If you can shoot better groups with iron sights than with a scope, chances are your mount is loose. Stay away from CHEAP NO NAME ALLOY mounts, and save up your money for a name brand mount such as Sadlak, Smith, or ARMS.

My personal favorite is the ARMS, which is the lowest and cleanest installation. These have always fitted up nice and tight and solid on all the US GI and Chinese 14s I've used them on. The only negatives about the ARMS M14 mounts, are

that with some rifles, ejected cases can hit the mount and cause stoppages. The original ARMS mount had a massive relief cut in the top rail, and did not have this issue. You could easily mill a similar relief cut into the new ARMS, but you would think ARMS would still offer the old style mount for those who preferred them.

Unfortunately, if you want to mount to a Springfield M1A, which may [put charitably] have some variations in the receiver geometry, the ARMS may not fit properly. This is NOT the fault of the ARMS mount. To allow for receiver variations, the SMITH [SEI] mounts and similar designs have a cam around the bolt, which can allow adjustability, to compensate. These are great mounts, and are available in several configurations. All of them are expensive, but probably worth it in the long run.

The only inexpensive M-14 scope mount I could recommend with a clear conscience, is the **PROMAG PM081A**. This is a very good STEEL copy of the ARMS # 18, without any frills. NOTE that the Promag rail is slightly undersized compared to the ARMS [Weaver VS Picatinny], so the ARMS # 22 clamp on Quick release rings will not fit tight enough to hold a scope securely. While I do like the ARMS rings, and nothing else really looks as good on an ARMS mount, I have pretty well standardized on the Leupold Quick Release Weaver rings. These rings adjust through levers that screw in, which allows fitting to a wider variety of rails. The Leupold QRW rings are top quality, and I have successfully removed and reinstalled them and proven that they will hold as tight as I can shoot. For those who swap scopes around, they are a good deal.

When choosing a scope, keep in mind that the M-14 actually has two recoil cycles, one when the bolt slams back into the receiver, and the other when the bolt slams shut. This scope abuse is also compounded by the fact the M-14 rifle, properly set up, vibrates like a tuning fork when the bolt slams shut. Aka PINGGGGGGGggggggggggggggg!

AND, this vibration can be amplified and concentrated into the scope, by the mount design. So most cheap scopes, especially big heavy scopes, don't live long on an M-14. I have had very good luck with the old, out of production, Bushnell Scopechief VI riflescopes. These were once Bushnell's top of the line model, and are still often available used, at reasonable prices, at gun shows. Best of all, Bushnell has a LIFETIME warranty on these scopes, and in Canada, they usually will repair or replace your scope quickly and for no more cost than the postage and handling.

PS: did you get the message yet ... ***there are a lot of scope mounts out there for the M-14, but most of them are TRASH..***

Next, buy a couple of spare NEW US GI or aftermarket op rod springs. These are the heart of a well functioning M14, and many of the old Chinese springs were soft enough to take a set in a few hundred rounds. Supposedly, the new batch of Chinese 14s now come with better quality springs ... but my advice still stands.

Next, get a GI M-14 fiberglass stock. With these you care most about the receiver leg and trigger housing bedding surfaces. The GI fiberglass stocks are soft, and will pound out from recoil before more modern bedding materials, but while they are tight, THEY SHOOT. Surplus GI fiberglass stocks, as expensive as they are getting, are still cheaper than a professional glass bedding job. If you want to attempt a DIY bedding job on the Chinese stocks, many people have done so successfully. But don't forget about silk purses and sows ears.

Aftermarket stocks I personally like the JAE 100 stock, and also the made in Canada AKM stock, but realistically this "UPGRADE" ***costs twice as much as another Chinese M-14, or a really accurate bolt action rifle.*** And realistically, once again, I've seen fantastic groups come out of M-14 rifles using the US GI glass stocks. The JAE, however, ***offers greatly improved ergonomics and total adjustability.*** This alone may make it easier for the serious target shooter to extract the most accuracy from the system. Fitting a custom stock should always be followed by a trigger safety check BEFORE loading live ammo.

Match grade barrel – the sky is the limit here. However, in my personal experience, I have seen some very respectable shooting with standard barrels, US GI and Chinese.

AMMUNITION

The M14 type rifles can be incredibly sensitive to variations in ammunition. I've seen the same rifle shoot sub-MOA with one load, and 3 – 4" with a different load. For the average M-14/M1A, if in otherwise good condition, the most cost effective improvement in accuracy is to buy lots of different brands and types of practice ammo. Buy a few boxes each of as many different brands of ammo as you can find. Once you find what your rifle likes, buy cases of it and shoot it.

If you stray too far from 7.62 NATO standards regarding bullet weight and pressure, you can get into durability, reliability, and accuracy issues. The M-14 was designed for 150 gr bullets, with military powders tailored to have the correct pressure characteristics at the gas port. The twist in the M-14 barrels likes 168 gr bullets for excellent accuracy. Those who choose heavier bullets at high velocity, for hunting or for long range target shooting, will have to be aware that recoil from these heavier bullets can do significant damage to the M-14 rifle. Those who go too light, either in bullets or in powder, may find the gas left over at the port may not have enough power to operate the mechanism reliably and consistently. That being said, I have tested a few M-14 rifles with the sabot loaded Remington .223 55 Gr Accelerators, and this makes for a reliable shooting load, with no recoil, that may be accurate in your individual M-14. As usual, with individual opinions and experience, your personal mileage may vary.

I shot up several cases of various brands of "Match" ammo when I was building and accurising the 14s. While every 14 would have a favorite load, ON AVERAGE, the most accurate round through the most M-14 type rifles, was **Winchester Ranger "For Police Use Only" 168 Gr HPBT**. Federal 168 GR HPBT Match was, on average, a close second in overall accuracy, and was the first place choice for some individual 14s.

The best 7.62 ball [again on average through a lot of different Fourteens,] was Hirtenberg.

Just for fun, I shot some .308 Win/sabot .223 cal *Remington Accelerators*. Consider this a sort of .22-250 equivalent load. The 14s functioned reliably with these loads, recoil is non-existent, and some groups were sub-MOA. However, *point of impact at 100 yds was considerably different.*

If I bothered to reload with 168 Gr match bullets for match load accuracy, Lake City Match cases [sorted by volume] were my first choice. The LCM cases were the best at taking the beating a semi auto gas gun gives the brass. The M-14 rifles like 168 grain bullets.

My "practical" .308 Winchester reload was a Lapua 123 Gr .311" bullet [for the 7.62 Russian] loaded into LCM cases, with a muzzle velocity of about 2450 FPS. This duplicates 7.62X39 Russian ballistics, and was a very controllable, very accurate 200 yd load, with little recoil.

7.62 NATO VS .308 Win

As a GROSS GENERALIZATION for newly manufactured ammunition, the variations in *external* cartridge dimensions between .308 Win and 7.62 NATO cases are not that significant. However, there are other very significant differences between the two types of ammunition. One such difference is that **7.62 NATO brass is usually thicker, especially at the base**. Also, the brass in 7.62 NATO cases generally seems to be tougher, perhaps drawn of a stronger alloy. This thicker 7.62 brass results in smaller internal volume with 7.62 cases, so reloading data is NOT interchangeable between 7.62 NATO and .308 Winchester. In semi auto rifles, the tougher / thicker 7.62 NATO brass is better both for initial firing, and for potential reloading.

7.62 NATO military ammunition is carefully chosen to optimize performance in 7.62 NATO *gas operated* military rifles, like the M-14. This restricts the choices in internal and external ballistics considerably. On the other hand, .308 Winchester ammo is designed for sporting or target use, with a wide range of intended targets, available in many bullet weights and bullet types, from many different manufactures. The really significant differences between 7.62 NATO and .308 Win ammunition may not be readily apparent, but they ARE there. Differences such as bullet weight, powder choices, retardant for the powder, Berdan or Boxer primer, crimped in primer, sealant at primer and bullet neck, crimped bullet, bullet weight, and bullet type, can all have a significant effect on safety, reliability, accuracy, and durability.

M-14 INFORMATION Sources: Websites, Forums and online Chat groups:

<http://www.m-14forum.com/upload/>

<http://www.ambackforum.com/viewforum...f1fae2e738456c>

<http://perfectunion.com/vb/forumdisplay.php?f=85>

<http://www.warrifles.com/forums/>

<http://www.smithenterprise.com/>

<http://www.springfield-armory.com/>

<http://www.entreprise.com/m14smithig.htm>