

**M**ILITARY high power rifle competitors have a distinct advantage over their civilian counterparts in having ready access to proper maintenance of their M14 National Match rifles. Whenever the GI match shooter's rifle fails to function properly, or is in need of any specific attention, all he has to do is put it in the able hands of the MTU armorer. In short order the problem will be corrected.

In contrast, the civilian competitor using the commercially made M1A can have real problems. Almost always, he lacks the services of a skilled armorer and does not possess the knowledge and skill to properly maintain his own rifle. The match grade M1A is far more sensitive to maintain than a bolt action NRA Match Rifle, or even the M1 Garand, and special techniques are needed to keep it shooting well.

The M14 and M1A are excellent rifles but are somewhat sensitive to proper maintenance when used as target rifles. The bedding area of the M1A is far less than that of the M1 rifle or most bolt action rifles. Consequently, it is more sensitive to minor bedding changes. The M1A gas system is another area that causes problems and calls for special attention. The trigger mechanism is a third

area that causes trouble.

While it is more complicated to keep in top competition trim than the National Match M1 or bolt action match rifle, with the correct knowledge it isn't especially difficult to keep your M1A in excellent shooting condition.

Correct maintenance of the M1A gas system calls for careful cleaning every 300 to 400 rounds. Always start a new season or a big match with a clean piston.

Removal of the piston is not difficult, but great care must be exercised to prevent crushing the gas cylinder tube. The tube is very thin and any denting will cause the piston to bind and will prevent the rifle's semi-automatic operation. Support the front of the cylinder and lock with a fixture or vise while using a  $\frac{3}{8}$ " socket wrench for removal of the plug. The wrench may have to be tapped with a rawhide mallet to loosen the plug. Once the plug is removed, the piston may be easily withdrawn for cleaning.

To clean the interior of the gas piston, a  $5/16$ " drill bit may be used to ream out the carbon build-up. The inside of the gas cylinder plug should also be reamed out with the same bit. The exterior of the piston may be polished with crocus cloth, but only enough to remove accumulated

fouling, without reducing its outside diameter. After cleaning and polishing, measure the piston with a micrometer. Replace it if diameter is less than .497". A smaller piston can cause "short recoil," and feeding failures.

In reassembling the gas system, the gas cylinder lock must be turned all the way down till it bottoms, then be backed off to the six o'clock position. It is a very common mistake just to turn the lock down snug. If the system is assembled with the lock one turn too far out, misalignment of the hole in the barrel and gas cylinder will cut the supply of gas. This will cause malfunctioning, short recoil, and failure to feed.

No solvent or bore cleaner is ever used in the gas system, as it causes a sticky residue that prevents smooth operation of the system and inaccuracy due to rough piston movement. Keep the rifle upside down during the bore cleaning to prevent solvent from dripping down through the gas port into the gas system. The calcium carbonate residue from ball powder used in M80 Ball ammunition does the same thing when used in a match M1A or M14. (See *American Rifleman*, Feb., 1978 p. 38).

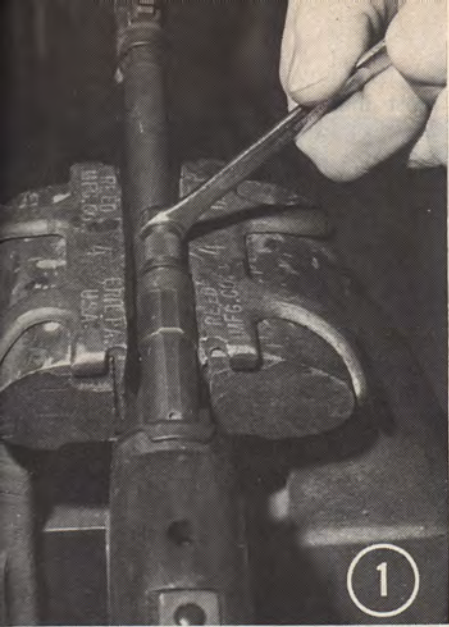
If your rifle has been glass (epoxy)

**An armorer for the All-National Guard Rifle Team gives expert advice on...**

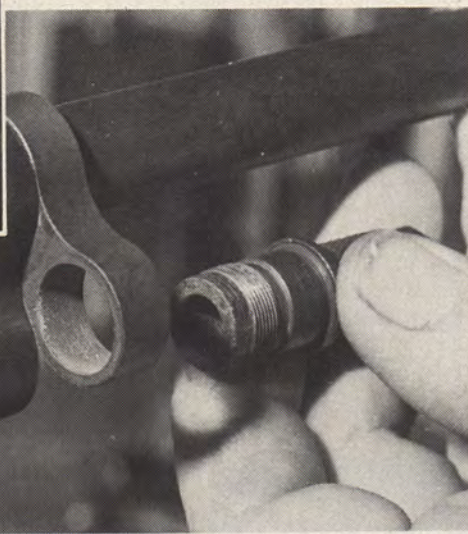
# THE CARE AND FEEDING OF THE M1A



**BY RICK MILLER AND  
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**1** **2** The M 1A gas system must be kept clean if the rifle is to function properly. Begin cleaning by loosening the gas cylinder plug. Then remove the plug and turn the lock screw clear of the mouth of the cylinder. Slide the gas piston forward out of the cylinder and remove it from the assembly.

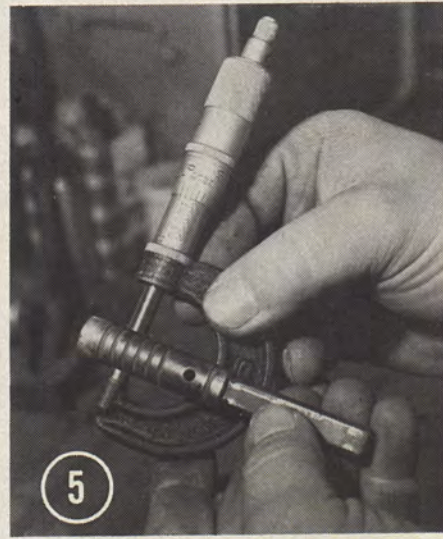
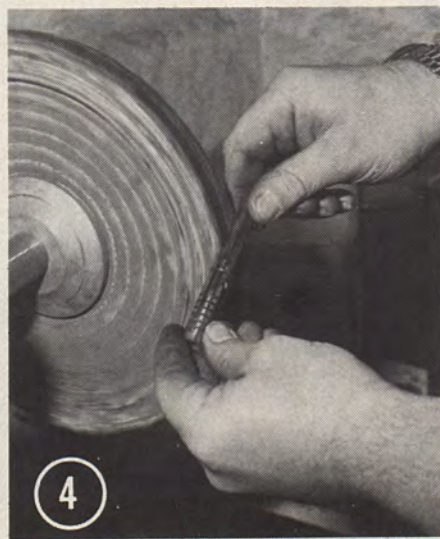


the receiver area. They migrate between the action and bedding, lubricating the bond.—Just what you don't want!

The first sign that the bedding of your M1A is giving out will usually be a windage shift, often a two or three minute change to the left. If you suspect faulty bedding, remove the trigger group, then pull up on the receiver at the rear sight. If it comes up easily, you need a new bedding job or a surface glassing. Unless you have thorough knowledge and skill in the proper procedure for doing this, the best advice is to return your rifle to the armorer or gunsmith who accurized it.

If you feel compelled to remove the action from a glass bedded stock, proceed with great care! Remove the trigger group, close the bolt, and with the rifle upside down on your knees, insert a brass drift through the stock to the receiver at a point near the rear sight. Then with a light hammer, gently tap the drift. The action will slowly work out of the stock. Don't hurry it along, and don't smack the buttplate on the table as you did in basic training or you will be buying a new stock!

When reassembling, make sure the ferrule of the gas system is hooked on the front of the stock, then proceed to insert the action into the stock. Be sure that you don't force anything as it goes back together.



**3** Remove built-up fouling from inside the gas cylinder plug with a hand held twist drill of 5/16" diameter. The same drill may be used to scrape fouling from inside the gas piston, but be careful to remove only fouling and not to scar the plug or piston.

bedded, it isn't a good idea to remove the action from the stock without good reason. You can remove the trigger group for cleaning and lubrication, but leave the action in the stock.

**4** Corrosion and fouling are removed from the exterior of the gas piston using either chemical solvents, crocus cloth, or a buffing wheel and polishing compound. If an abrasive is used, take care to remove fouling and not metal from this precision part.

In the off-season when your rifle is not used, store it in your cabinet with the muzzle down, or upside down on the gunrack, and with trigger guard unlatched. Storing muzzle down prevents solvent and grease from attacking the wood and bedding. Unlatching the guard relieves the pressure on the bedding and prevents wood compression. Spray oils and preservatives should never be used in

**5** Before reassembling the gas cylinder assembly, check the diameter of the piston. Replace a piston of less than .497" diam.

For best accuracy, the bore should be cleaned every 50 to 60 rounds, or each time over the National Match Course. If cleaning is less frequent, accuracy will begin to suffer, due to accumulations of hard, compacted fouling. Several passes with brush and bore cleaner, followed by a couple of dry patches, will do the job, provided it is done regularly. If the bore is ever neglected, more severe cleaning methods may be required. You should never put your rifle away dirty. If you cannot clean completely before leaving a match, at least wipe the bore with a brush saturated in bore cleaner before driving

home. This will start to work on fouling deposits and make the job easier later. Hoppe's No. 9 or a similar good solvent is okay, but GI bore cleaner is a tried and proven standby. After the bore is cleaned, clean the chamber with the issue ratchet brush or old M1 combination tool. Fouling and carbon must be kept out of this area for best functioning. Dry the chamber with a clean patch over a worn chamber brush. Clean brass particles and carbon from the bolt face and extractor with a toothbrush. If the rifle will be fired again within a week or so, leave a thin film of bore cleaner in the bore to aid later removal of latent fouling and to prevent rusting. But always remove it before firing. *Always resume firing with a dry bore and chamber.*

To reduce damage to the rifling at the muzzle, always use either a one-piece

polished steel or plastic-coated cleaning rod. Jointed rods, aluminum, and brass rods pick up grit, acting as a lap and wearing away the sharp edges of the rifling and muzzle crown! The jointed GI rod is the worst offender, and can ruin accuracy in one vigorous application! Always use a rod guide for the muzzle of match rifles. An empty 12-ga. plastic shell with the primer pocket and flash hole reamed out to fit your cleaning rod will slide over the suppressor cage and works fine.

Barrel life for match accuracy is usually at least four to five thousand rounds, provided the rifle is cleaned regularly and conscientiously. The rapid fire stages tend to accelerate throat erosion and rifles used for Infantry Trophy competition will shoot out sooner. When the 300-yard groups open up and the bedding is still solid, it is time to rebarrel.

For good functioning, it is recommended that the action be lubricated with "plastilube," a synthetic high temperature aircraft grease. Keep it on all operating runways, locking lug seats, bolt roller and,

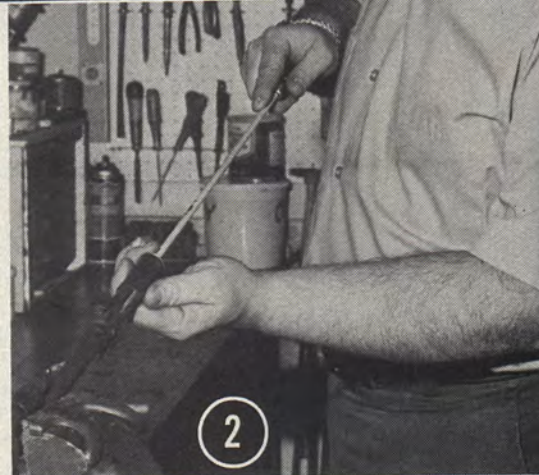
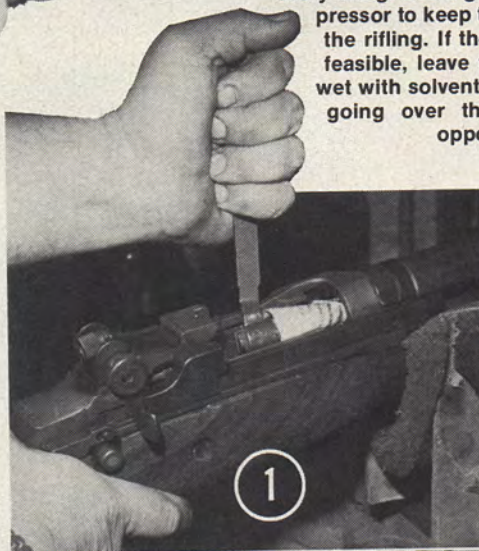
most importantly, on the round guide bearing portion of the operating rod (visible under the handguard when the bolt is locked open). Keeping the operating rod lubricated with a thin coat of grease keeps the rod from chattering during functioning. A small amount of grease may be worked into this area on a pipe cleaner. *Do not over lube.* A thin film is adequate. When you remove the trigger group for cleaning and lubrication, dab a little plastilube on the hammer nose and hammer hooks before reassembly.

If you experience a variation in weight of trigger pull, first check the mechanism for dirt. A good cleaning will usually alleviate the problem. Sometimes, in a newly built rifle, the trigger will be too

**Cleaning the bore and chamber of the M1A is the most important, and most often required, facet of proper care of the rifle. It should be done, and done thoroughly, after each day on the range.**

**1** The chamber is scrubbed out using solvent and a specially designed brush. Once clean, a dry brush and patches are used to dry the chamber and ready it for the next day's session at the firing line.

**2** The bore of the M1A rifle should get an equally thorough cleaning after every firing. Use a guide over the flash suppressor to keep the rod from damaging the rifling. If thorough cleaning is not feasible, leave the bore and chamber wet with solvent and give them a good going over the first time that the opportunity presents itself.



This article treats only the care and cleaning of National Match M14 and M1A rifles. A more comprehensive treatment covering modifications to both bedding and trigger pull, normally performed to improve the target accuracy of the M14/M1A, will appear in a future *American Marksman*.

light or the gun may "double" (fire two shots with a single pull of the trigger). This is usually a sign of too much bedding tension, and is caused by an actual bending of the trigger housing. Damp weather and rain can swell a stock, especially oil-finished wood, and cause the same thing. If moisture is a problem, give the stock a chance to dry out.

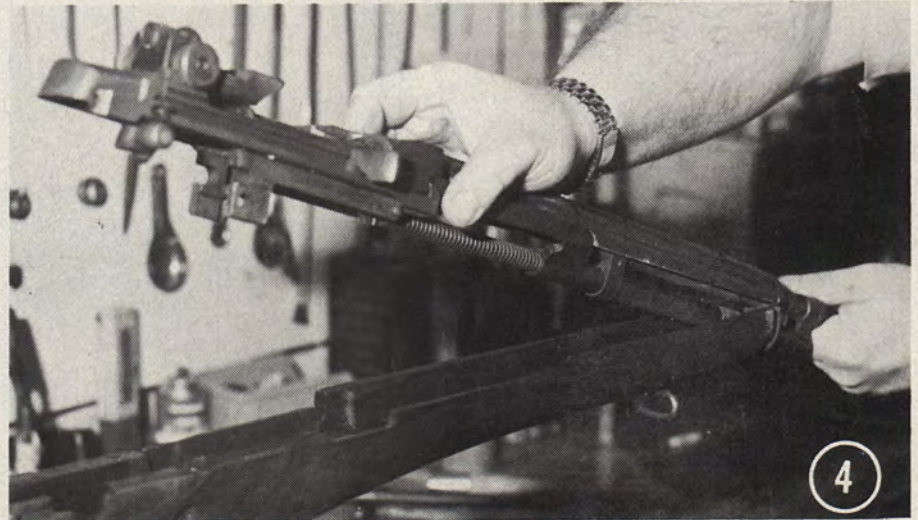
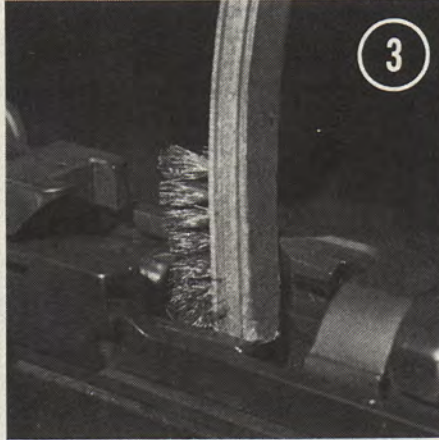
As a last resort, you may have to add weight to the trigger pull. Four and one-

half pounds is the minimum weight of pull for service rifles under NRA rules and AR 920-30. Several passes with a point stone, flex stone, or 320 grit emery cloth between the safety sear and back of the trigger will increase the weight of pull. Use weights to verify weight of pull is at least 4½ lbs.

At the end of a shooting season, your MIA should receive an annual preventive maintenance, as follows:

1. Thoroughly clean the bore, chamber, bolt face and flash suppressor. Check for gas erosion of the suppressor at the junction of the tines and the front ring; excessive cutting of the web indicates need for suppressor replacement.
2. Remove and clean the gas piston and gas plug interior and exterior, measure piston diameter at least once a year (diameter must be 0.497" or larger).
3. Remove trigger housing from rifle, rinse in solvent, wipe clean and relube, especially hammer nose.
4. Remove as much old grease and dirt from action runways as possible and relube with plastilube. Lube operating rod hump and round guide bearing section.
5. Reassemble rifle and work action to distribute plastilube.
6. Store muzzle down with trigger guard open.

In summation, the match grade MIA need not baffle the civilian competitor. With proper care and understanding, it will perform very well. The above steps will be of great help in maintaining a high level of dependable performance. ■



**1** An M 1A should be field stripped and completely cleaned — including the gas system — about every 300 or 400 rounds. Begin by removing the firing mechanism. Then, using a drift as shown top left, separate the barrel and receiver group from the stock group.

**2** Clean the firing mechanism thoroughly, using a chemical solvent to wash away dirt and old lubricant. Relubricate, especially on the hammer, with *Plastilube*. While it's out of the rifle, check the firing mechanism; visually for even bearing of the hammer hooks, and by trial for proper functioning of the disconnecter sears and safety.

**3** Scrub out the receiver with solvent and a small bristle brush. Pay special attention to removing old lubricant from the operating rod and bolt runways, and from the guides and camming grooves in the operating rod. Clean off the bolt face, extractor and ejector, then relubricate the cams, camming surfaces and runways with *Plastilube*.

**4** When reassembling the rifle, care must be taken to seat the barrel and receiver group in the glass-bedded stock group without damaging the glass bedding. Start by catching the lip on the front band of the barrel and receiver group underneath the ferrule on the fore-end of the stock. Then rotate the barrel and receiver group downward into the bedded portion of the stock. When the barrel and receiver group is seated in the stock group, insert the firing mechanism and use the closing action of the trigger guard to pull all three major assemblies into their proper relationship.