

The Care And Feeding Of A Sniper Weapons System

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Before I begin this article I must first issue a disclaimer. As anyone who has been involved in this business knows, there are as many techniques and opinions around as there are shooters. So, I must say that anyone who does not agree or has a "better" technique please take the time to analyze and think through what I say before dismissing it. The methods that I will soon describe are not just something that I alone thought up. They are techniques and practices handed down to me by someone else. Not that I am making any excuses, quite the contrary. I readily accept all responsibility for anything I say. Furthermore I have personally tried them all and I teach them to others. Now with that out of the way let's continue.

For as long as there have been sniper weapons systems there have been specific techniques and methods associated with them. These techniques cover everything from picking the appropriate system to cleaning and maintenance. Some methods have stood the test of time while others have proved to be either harmful or just plain useless.

There are literally hundreds of items on the market today for cleaning and maintaining your SWS, some good others not so good. What I am about to list are of course my opinions and favorites. If you personally have something else that does the job then use it. I will however tell you not to dismiss something without first hand information and experience. I have been told lot of things over the years about cleaning my weapons and I would have to say that most of the advice was sound but some was not.

The Equipment

In order to properly maintain your weapon system you must have the appropriate equipment. There are several items that are mandatory while others are optional or just nice to have. I think that it is appropriate to take the time to discuss the two predominate methods of cleaning at this time. Anyone who has ever been in the military is intimately familiar with mechanical cleaning. This is the method of using metal bristled brushes to scrub the bore and/or chamber in conjunction with chemicals to soften and subsequently remove residues. The other method is using just chemicals to melt or remove residue normally through soaking and patching. There are other methods such as electro cleaning and one or two others but due to complications and a lack of following I will not discuss them here. I personally favor mechanical cleaning, as I believe that it more effectively cleans the weapon. However, I do know people who swear by chemical cleaning and refuse to use any type of brushes in their weapons. The moral of this story is use what you believe best works for you.

Cleaning Rods

The first item up for review is the cleaning rod. On the market today there are several manufacturers of cleaning rods and with them a variety of types of rods. For the sake of discussion we will classify cleaning rods into 2 categories coated and uncoated. I have heard all of the discussion regarding the pros and cons of both but the overwhelming point of contention seems to be that coated rods might lose some of their coating in the bore of the rifle and cause a loss of accuracy or even a catastrophic failure due to an obstruction. Well I have to say that I have never had any problems. Here are some points for rod selection.

Do not purchase a sectional rod. Sectional rods have ridges where the rod sections screw together. These points will act as scrapers during the cleaning process and wear on your chamber and bore. Purchase a quality one-piece cleaning rod. Insure that the rod is long enough. The rod must be long enough to allow the jag or brush to exit the barrel without having to slam the handle against the receiver or stock. Do not buy a rod that is excessively long either. The longer the rod the more the flex and the more the pressure it will take to push it through the bore. Insure that the rod is the right dimension or caliber for your SWS. Do not use a .223 caliber rod to clean a .308 caliber rifle. The rod flexes in the bore, which is detrimental to the chamber and bore of the rifle. Insure that the rod has the right end for attaching the jags or brushes you have. Rods come in either male or female configuration. Insure that the rod handle will clear the comb of your stock. Some rods have large bulbous heads while others have slim streamlined handles.

The last item concerning cleaning rods is the attaching ends. As I stated above there are two types, one that has a male thread area and the other type, which has a female thread area. Most rods today come with an adapter to allow the use of either type of brush or jag, just make sure you have one. Some of the better rods are Dewey and Kleen Bore both of which are both readily available at you local precision rifle store or through mail order, normal cost is around \$30.00.

Bore Guides

The next item for discussion will be a bore guide. Bore guides come in many configurations and prices. Some to look at are Dewey, Stony Point, and KTM. Prices are anywhere from around \$8.00 for a KTM to \$30 for a Stony Point. Make sure that you get a bore guide designed for your particular weapon and caliber. The better guides will be adjustable to allow them to be used on various length actions. Most bore guides now have an "O" ring at the end to seal the chamber so that solvents do not run into the magazine and trigger area. Something of interest for those of you who have to have the best. Several custom gunsmiths will make you a custom fitting bore guide out of the same stock as your barrel complete with the rifling.

Jags

Jags are used to hold your cleaning patch when cleaning your rifle. There are 3 types of jags. The eyelet type which most of you are familiar due to the slot in the center of jag in which you insert the patch half way through similar to threading a needle. The second type is the "wrap around" or Parker Hale style jag in which the patch is wrapped around the jag and held by little raised diamond shaped areas on the jag which snag onto the patch material. The last type is the "Spear" style, which has a pointed end and is intended for round patches. I prefer the wrap around style mainly because it is more uniform and seems (to me at least) to patch the bore better. A note of caution here, regardless of the style you use, insure that it is made of either brass or plastic and not steel as commonly found in military cleaning kits. Steel can harm you barrel over extended time. Take care of your jags, you should only need one or two (per caliber) and they don't really wear out. Should you bend one somehow, discard it. The aggravation you will experience trying to clean a weapon with a bent jag or straighten the jag is not worth the price of a new one. Prices for good jags are less than \$10.

Brushes

You will need a supply of bore brushes in which to clean the bore properly. The key points to brushes are first, make sure you get the right caliber brush for the weapon you are going to be using it on. Second, make absolutely sure that the brush you buy does NOT have any steel strands in it. There are brushes made with steel strands or are steel themselves, they will ruin your barrel very quickly. The brush must be brass, copper, or plastic. As with your jags take care of the brushes. Never dip the brushes into your solvent jar as the dirt and grim from previous cleanings will contaminate your solvent. Should you ever drop a brush (especially a wet one) into the dirt or sand ensure that you thoroughly clean it or better yet discard it. Brushes are relatively cheap costs usually less than \$10 for a pack of 4 or 5.

You will also need a chamber brush to effectively remove any dirt or residue in your weapons chamber. I highly recommend a Kleen Bore Pistol Cleaning Rod which is a plastic "T" handle with a short (6") flexible-cleaning rod which you can attach a brush. The brush you should use with this rod is a plastic bristled pistol bore brush. A .45 caliber brush works very well in a .308 caliber rifle. This rod allows you to clean the chamber from the breach (where the bolt is removed from) or the ejection port because it is flexible. You should wrap a patch around the brush and insert it into the chamber and then rotate the "T" handle. A complete "T" handle and brush kit costs around \$15.

Solvents

There are two types of solvents, which we shooters are concerned with. The first is carbon solvent and the second is copper solvent. Let me caution you up front not to mix these two solvents at any time during the cleaning process. Mixing these two solvents in a bore can have disastrous results in pitting the bore and rifling. You will need a good carbon solvent such as Shooters Choice or Hoppes Number 9. Regardless of the name brand buy a quality carbon solvent. I have experimented with using carburetor cleaner as a carbon solvent but have found out that it does not work very well. However, a very good friend of mine Gene Econ who is an ardent shooter swears that a GM engine degreaser is in fact Shooters choice and uses it quite extensively. Regardless of which product you decide upon, a bottle or can should run around \$10.

Quality copper solvents come from several companies. The names here are Sweets 7.62, Shooters Choice Copper Solvent, and Hoppes Copper Solvent. As with carbon solvent the same rules apply, buy quality and you will get quality results. The price of copper solvent runs about the same as carbon solvent.

As a tip of the trade I offer this, procure two small baby food jars and in one put some carbon solvent and in the other copper solvent. Then insert a small stack of patches, which will soak up the solvent. The key is to have the patches wet but not dripping. This will reduce the amount that you will lose during cleaning. Also, get yourself one of those small Break Free bottles (black about 2" tall with a pop-top cap). Put carbon solvent in it and use it to replenish the solvent on your brush during cleaning. This is much easier than trying to pour some from the original bottle onto the brush and spilling some onto the ground.

The last item of this section and definitely the most controversial subject, JB Bore Scrubber. For those not familiar with this product let me give you a brief description. JB is a paste that incorporates minute particles of an abrasive that is suspended in a lubricant. What JB does when used properly is act as a polishing compound inside of your bore. I know that this seems kind of drastic to most but let me assure you that JB is truly an excellent product and when used correctly (second time I am saying that stomp stomp) JB will add life to a barrel and can restore life to an older abused barrel. A jar of JB will cost you around \$6.00 and last you around 10 years depending on how you use it. I will go into how to use the JB later suffice to say that it is used during break in and throughout the life of the barrel.

Lubricants

Now onto the subject of lubricants. There are numerous types and brands of lubricants on the market today. The US military chose to go with Break Free years ago because at the time this was the best on the market in terms of all climate usage and degree of protection. The problem is that Break Free contains a silicone base with remains in the weapon for an extended duration. This is a good thing when put on sliding parts however it is a bad thing when placed into the chamber of a precision rifle. The silicone will produce erratic shot groups until it is burned out of the bore. I generally recommend the use of two brands of lubricants, WD-40 for cleaning residual solvents out of the bore and Slick 50 Lube One for all of my sliding parts. WD-40 will effectively remove all residual solvents from the bore without leaving any accuracy-robbing residue itself. Plus WD-40 will act as a protectorate if the weapon is to be stored. I should mention at this time that prior to ever firing your weapon after removing it from storage regardless of the duration of storage the bore should be patched dry. Slick 50 contains PTFE, which is a superior lubricant and lasts a long time. I have personally used Slick 50 in a CAR-15 and fired thousands of rounds requiring only minor wiping down of the bolt to remove carbon build up. It comes in a handy 6 ounce pump spray can that fits into any range bag and lasts quite a long time. Although Slick 50 advertises that it lasts twice as long as WD-40 it is much heavier so I do not recommend its use in the bore. There are several other types and brands on the market exclusively targeting the gun market, which make all the usual claims of superior performance and usefulness. I would only say that be careful what you use and insure that whatever you use you do so in moderation.

The last piece of equipment needed for cleaning is patches. Patches are used to clean the bore and chamber of the weapon during routine maintenance. Patches are kinda like the mousetrap. It is pretty hard to improve upon the basic design. There are all kinds of "high speed" patches for sale on the market, however I have never found anything better than the standard cotton military bulk issue patches. The best advise I can offer here is to go to a local gun show and purchase a package of GI issue white patches in the caliber of your choice. One thing I can offer here is that with .30 caliber patches I usually cut them in half to better facilitate wrapping them around my jags.

Tools

I view my gun tools as disassembly, maintenance and deployment tool. While there may be some redundancy in the groups this method insures that will always have the tools you need during whatever action you are attempting.

Disassembly tools are pretty self-explanatory. They are whatever tools you need to take apart the weapon system. Generally these tools will consist of hex head wrenches, possibly a box end wrench, a variety of punches and maybe a small flat tip screwdriver. For a detailed disassembly of some of the internal components such as the firing pin you may need more specialized tools such as Sinclair's Remington firing pin spring disassembly tool. Most sniper weapons systems can be disassembled as far as necessary without special tools. The common rule is that if you need a specialized tool to take it apart you really don't need to take it apart.

Maintenance tools usually consist of things that assist you in cleaning the SWS. Tools like small dental picks, an old tooth brush, a small scissors, a cork or two (slightly larger than the size of your chamber), and possibly a small file set make a good start. Put together whatever tools you feel you need. Normally you do not need a lot of tools to maintain the weapon system. Beware of those "neat" devices that claim to do everything but make coffee. As with most aspects of shooting, if it seems to good to be true than it probably is.

Deployment tools are used in conjunction with deployment parts. The US Army got it right hen they stipulated in the M24 contract that each rifle have a "deployment" kit that contains some commonly needed parts and tools. I will not go into the entire list here, but I will give you something to think about. You should give careful thought to what you may need and when you may need it. Parts to think about are scope screws, trigger guard screws, magazine spring, sling swivel, sling stud, sight inserts (for Iron sights), and an extra firing pin. Experience and some imagination will help you derive a useful deployment kit of your own. In conjunction with this kit you should also carry some small tools that will help you maintain and repair the rifle. Things like Allen Wrenches and small screwdriver set are a minimum. If you pick up a set of the type with the exchangeable bits you can kill both birds with one stone.

Cleaning Technique

This is where I will receive the most criticism and complaints. As I stated in the beginning, there are as many cleaning techniques as there are shooters. If you don't like my technique then do not use it. However I stand behind this method and have used it for years. I am going to cover the cleaning technique before I cover barrel break in because you will have to use these techniques when you break it in. All right here we go.

- Step 1: Insure the weapon is clear
- Step 2: Place the weapon in a cradle or lower the bipod legs remove the bolt from the receiver.
- Step 3: Insert the bore guide. If you have an internal magazine that drops open like a Remington BDL, leave it closed. The spring pressure will keep the bore guide in place.
- Step 4: Attach a bore brush to your cleaning rod, put some carbon solvent on the brush and insert the brush into the bore guide.
- Step 5: Keeping the rod straight, begin to stroke the bore of the rifle. The brush should exit the muzzle on each pass. If the rifle has been shot heavily more strokes will be necessary. Generally I make about 10 passes stopping only to apply more carbon solvent at about the midway point. Insure that the scope caps are shut prior to beginning this (if the optics is on the weapon) because the spray from the brush exiting the muzzle will spray carbon solvent onto the objective lens. Also some solvent will drip off the muzzle onto the floor or table directly below the muzzle. Once you are done brushing the bore, remove the rod from the rifle (you might choose to unscrew the brush at the muzzle end first to keep from dragging it through the bore guide). Wipe down the rod to remove any excess solvent.
- Step 6: Attach the jag to the rod, wrap a clean patch around it and patch the bore. Repeat this as many times as necessary until a clean patch comes out.
- Step 7: Spray a patch with WD-40 and patch the bore. The patch will come out slightly dirty but that is ok. The WD-40 will remove any trace of the carbon solvent. The patch the bore with another clean patch to dry it out.
- Step 8: Soak a patch with copper solvent and patch the bore as you did with the brush but this time do NOT allow the jag to exit the muzzle. You are scrubbing the bore with the copper solvent. Remove the rod and allow the copper solvent to stand in the bore for at least 5 minutes.
- Step 9: While waiting to remove the copper solvent, use the pistol rod and brush to clean the chamber. To do this remove the bore guide and wrap around the pistol brush that is attached to the flexible pistol brush. Then insert the brush into the chamber and rotate the handle. It is not necessary to attempt to scrub by pushing and pulling, rotating the handle will accomplish the task.
- Step 10: Also during this time you can clean the bolt by using the old toothbrush to remove any brass shavings. If there is any carbon present you can use a rag, patch or the toothbrush with carbon solvent to clean it.
- Step 11: Insert the bore guide and repeat step 6 and step 7.

At this point the weapon should be clean. You can check the bore by inserting the rod with the jag (no patch) into the bore, run it all the way to the end then back the rod up (into the bore) approximately 1/2 - 3/4 inch. Using a flashlight, bright interior lights or the sunlight you can see the lands and grooves just inside the bore. If you see any copper coloring then there is copper left. Do not get too excited about small amounts of copper. The effort to remove them and wear on the rifle may not be worth the extreme cleanliness you might desire.

There is one more step that you will use once in awhile during cleaning, that is using JB bore cleaner. The steps to use JB are simple and should not be misused. This is not to say that you will harm the bore, it would take quite a bit of scrubbing using JB in order to harm the bore. However, there is not need to over use this product. JB should be used approximately every other cleaning or every third cleaning depending on copper fouling. You should use JB after you have patched the bore clean following the copper solvent. Here are the steps to use JB;

- Step 1: Smear a small amount of JB onto a patch (the patch should be at least 1/2 covered with JB, just thick enough so that the JB is noticeable on the patch).
- Step 2: Using the rod with a jag, wrap the patch with the JB around the patch and insert it into the bore guide. Like the copper solvent scrub the bore with the JB at least 5 – 8 passes. I normally make at least 10 passes. Beware that the jag will work itself off of the rod as you scrub the bore.
- Step 3: On the last pass push the jag out of the bore and remove the jag with the patch. The patch should be black in color. Remove the patch from the jag. Remove the rod from the bore and reinstall the jag.
- Step 4: Wipe down the rod. Spray a patch with WD-40 and patch the bore. Then patch the bore with clean patches until they come out clean at the muzzle.

Lubricating the Weapon

There is the entire cleaning process. If you use this technique then the result should be a clean weapon. At this point I should mention lubrication of the system. Most bolt systems are similar however, there might be some between manufacturers. On bolt systems at a minimum you should lubricate the following:

- Bolt Lugs: Looking at the bolt as it sits in the weapon you should apply a light coat of lubricant to all sides of the lugs. Do not over lubricate, meaning that the lugs do not require a large amount of grease or lubricant.
- Bolt Body: You should apply a light coat of lubricant (slightly lighter than the lugs) onto the body of the bolt. You definitely do not want to apply too much lubricant here. Too much lubricant on the bolt body will result in the bolt picking up a lot of dirt and grim.
- Exterior: Wipe the rifle down with a light coat of lubricant.
- Bolt Face: Do NOT lubricate the face of the bolt, the lubricant will get into the chamber and can increase chamber pressure which can result in a catastrophic failure of the receiver.

Gas systems have many more moving parts thus requiring a lot more lubrication. Basically as with a bolt system the bolt will need lubrication. In either case if you are confused or having problems refer to the manufacturers instructions or consult a competent gunsmith.

Breaking in the Barrel

When you first take delivery of a new rifle (especially your first) you will have many questions concerning the proper care and maintenance. One of these questions should be "How do I break in the barrel?" Just like the cleaning technique that I described above, there are many methods and theories concerning the breaking in of a precision rifle barrel. If you ask around you will hear everything from nothing at all, just shoot it to extremely elaborate time-consuming methods. I like to think that I have taken somewhat the middle road using a technique that is somewhat time consuming but not overly so, and enough so that the barrel broken in enough so that I can obtain the maximum life from it.

Before I begin I should mention that there are numerous types of barrels and each may require a different technique. In my own defense I will say that I have used the technique I am going to describe on hammer forged and stainless steel barrels with varying degrees of success in each. At a minimum I would say that in all the barrels I have broken in using this technique all of them have measurably benefited. I will not go into great details in this forum suffice to say that I obviously support a proper break in and apply it to every new rifle I purchase. Now, on to the technique itself;

- Prior to firing the rifle for the first time insure that you are completely familiar with how it operates.
- Using a rod, jag, WD-40 and bore guide patch the bore of the new rifle to remove any grease or oil that the factory may have used as well as to remove any obstructions that may be present.
- Load the rifle and fire one round.
- Completely clean the rifle using the technique I described above. You do not have to use JB for the first round.
- After cleaning, repeat this procedure (fire one round and clean) but this time use JB.
- Continue this process until you have fired 11 rounds.
- After you have reached a round count of ten, begin to fire 3 round groups and clean as already described. JB every other cleaning until you have reached a total round count of 20 (3 3round groups).
- Now go to 10 round groups until you have reached a total round count of at least 50 rounds (I prefer 100 rounds) insuring that you JB every other cleaning.

By the time you are done the bore should be broken in and the gun shooting consistently. As I have stated I have used the above technique on numerous guns with success. In fact on one particular gas gun I was breaking in along with 7 others, the one gun I used the above technique on consistently shot ? moa better than the other throughout it's life.

Frequency of Maintenance

I will add a short note on the frequency of maintenance. The rifle (bore) should be cleaned every time it is shot. In a field environment you only need to keep the chamber clean. Do not worry about carrying a one-piece rod into the field. While on that note though I should mention that there is a method of cleaning a SWS in the field nearly as good as you would on the range. If you are shooting a .30 caliber system you can take a 5.56mm US military sectional cleaning rod, assemble it, and then get a piece of Heat Shrink Tubing and slide it over the assembled rod. Use a heat source (lighter, torch, etc) shrink the tubing around the assembled rod. Use a razor blade and cut around the rod at the screwed in joints, disassemble the rod. You now have a field expedient coated cleaning rod. In order to use your jag and brush you can purchase the adapter from J. Dewey company or find the US military .45 caliber pistol adapter, which will facilitate the use of commer-



cial jags and brushes.

You can use 000 (triple zero) grade steel wool to remove any small rust spots without damaging the weapon except high shine blued weapons. Depending on the type of bedding, the action should be removed from the stock if the rifle has been dragged or used in wet weather (rain or snow). Barring all of this the action should be removed once a year to remove any debris that have fallen into the stock. Be aware of the lug area and insure that any sand or other dirt is completely removed.

I hope that what I have written assists someone out there in breaking in and maintaining their new sniper weapons system.