

# Short Action Customs Owners Manual



**Specializing in Precision Rifle Builds and Services**

**"know no limits"**

201 Erie St.  
STE 1  
Wellington, OH 44090  
440-309-0085  
Mark@ShortActionCustoms.com

**Congratulations on the purchase of your new Short Action Customs, LLC rifle. You will find in this packet information regarding maintenance and care, guarantee and warranty information, and frequently asked questions. The team at Short Action Customs is proud to have you as a part of our family and we look forward to serving you in the future.**

## **Safety Considerations:**

Every firearm has the potential to be extremely dangerous and the misuse or lack of safety precautions can have deadly results. Review these basic firearm safety precautions when using any firearm.

- Treat every weapon as if it was loaded.
- Never point a weapon at anything you do not intend to destroy.
- Keep your finger straight and off the trigger until you are ready to fire.
- Keep the weapon on safety until you are ready to fire.
- Know your target and what is surrounding the target.

## **Unboxing your new Short Action Customs rifle:**

Each Short Action Customs rifle is supplied with our custom shipping box with high density foam and an outer cardboard sleeve for maximum protection during shipping. Upon receiving your new Short Action Customs rifle, it is strongly recommend visually inspecting the barrel chamber and bore for any debris that may have entered during shipping. This is also a good time to push a clean cloth patch down the bore to be certain it is free of any obstructions. We will list all the recommended cleaning and maintenance products later on in this packet. After initial cleaning and inspection is completed, ensure all parts are accounted for and your order has been fulfilled completely. If any damage or discrepancies in your order occur, contact Short Action Customs for assistance.



Barrel break-in is a topic of much debate. Some shooters and manufacturers strongly agree with a proper barrel break in, and some will disagree. At Short Action Customs, we subscribe to the theory of barrel break-in but believe it is not a mandatory process. More information about barrel break-in can be found at:  
[www.bartleinbarrels.com/BreakInCleaning.htm](http://www.bartleinbarrels.com/BreakInCleaning.htm)

## Care and Maintenance:

Any precision tool will require care and periodic maintenance to keep it performing at its full potential. A Short Action Customs rifle is no different. Proper cleaning of the bore and chamber will help ensure that the rifle will continue to meet the high demands of the shooter. In most cases the bore will not require extensive cleaning unless the accuracy of the rifle begins to degrade. We typically have 200- 400 rounds down the barrel between cleaning. Listed below is the basic technique and materials that we use at Short Action Customs to keep our rifle running properly.

Before cleaning the bore, ensure the rifle is completely unloaded. Visually and physically check the magazine, loading port and chamber to ensure no ammunition is present. When cleaning it is important to use a properly sized cleaning rod, jag/brush and bore guide to protect the throat of your chamber. It is equally important to always clean from the chamber end toward the muzzle end giving special care to ensure the clean jag does not contact the muzzle crown when pulling the rod back through. We use Tipton Carbon Fiber one piece cleaning rods. They are straight and rigid and will be easier on the bore than a steel rod. For bore guides, we will either use a custom made guide from Lucas or more of a universal/adjustable guide from Sinclair International. We also use cleaning jags from Tipton and always use a quality cotton flannel bulk patches from Brownells specific to the caliber we are cleaning. When it comes to the bore cleaning products, we use two simple types of cleaners, chemical and mechanical types. We like Butch's Bore Shine for our chemical cleaning and Hollands Witches Brew for our mechanical cleaning.

For our cleaning technique we will push a few patches of Butch's Bore Shine through the bore to remove as much of the powder residue and carbon as we can. Next we will switch to the deep/mechanical cleaning with Hollands Witches Brew. We soak a patch with the Witches brew and we push the patch from the chamber end to the muzzle with one smooth stroke. We will do this for at least 5 patches to get the majority of the carbon fouling out of the bore. You will notice that this is a difficult task and will require a lot of steady pressure. Next we will continue the cleaning with Hollands Witches Brew by using short strokes up and down the bore to remove left over copper and carbon. We will continue for 10-20 patches worth. Extra cleaning may be required



depending on the frequency of cleaning cycles the shooter uses. Our crowns on the barrel have been designed to achieve the barrels accuracy potential while being robust enough to handle the intense heat and pressure from each shot fired in addition to the cleaning process.

After the bore has been cleaned and the shooter is confident that the bore is clean, we recommend cleaning the chamber now. We will typically use a nylon .45 ACP pistol brush on a short to medium length cleaning rod with a 12 gauge shot gun patch wrapped around the brush to clean out the chamber. Simply insert the cleaning rod with the nylon .45 ACP pistol brush with a patch wrapped around it into the chamber and spin the brush. With most calibers, this will also get up into the neck area. Our goal is to remove any buildup of debris and carbon out of the chamber. After shooting in a rifle competition, it is easy to have the chamber layered with debris causing extraction problems as well as pressure problems. This is why it is important to clean the chamber as well.

The action and bolt are the last items that need some minor attention during the cleaning process. The actions lug abutments, the bolt body and inside the action raceway specifically will need to be cleaning. The bolt body needs to be wiped down to remove any buildup and a very thin coat of oil needs to be applied. The action raceway also needs to be cleaned, a tooth brush or larger pipe cleaner will do the job nicely. The actions lug abutments will be cleaned by using a 90 degree pick with a hollow cotton swab attached to the end of it. Insert the pick into the action and swipe the cotton swab across the top and bottom lug abutments.

After the chamber, locking lugs and the bore have been cleaned, we recommend running 1-2 dry patches back through the bore without the bore guide installed. We do this to ensure that from the chamber to the muzzle, there bore is free of any cleaning solutions or obstructions. We typically leave our bore dry, but shooters may want to coat the bore with a very light application of a rust preventative product. Always ensure the bore is clean and free before shooting the rifle.



Barrels with Melonite treatment will require a more extensive initial cleaning before firing. This is mainly because of leftover residue or a film left in the bore from the Melonite process.

## **What To Expect, 0-150 Round Count:**

Each barrel will require a certain number of rounds fired in order for the barrel to “settle in” in the accuracy and velocity department. Not every barrel is created equal even if using the same manufacturer, lot number and consecutive serial number. One barrel from the same lot may yield 100 Feet Per Second faster than the next and may shoot slightly smaller groups than the next. This phenomenon is seen with every barrel manufacturer and style of rifling.

Typically from the round count 0-150, a given cartridge will increase velocity during this stage of the barrels life. This is mainly due to the barrel “breaking in” while the bore is being work hardened by the extreme heat and pressure. Load development can be performed, but the shooter will most likely have to lower the powder charge slightly to achieve the same results after the barrel has exceeded this stage in its life.

## **What To Expect, 150-End Of Serviceable Life:**

After the initial “break in” period, the shooter will experience a high level of performance out of their barrel until it expires. The lifespan of a barrel can only be dictated by the hardness of the steel and the rifling process, the pressure levels of the ammunition being fired and by the duration of the strings of fired by the shooter. This is true for just about any barrel manufacturer and bore type. Accuracy may still meet the shooters requirements, but the velocity will decrease. This is a sure sign that the barrel’s lifespan has peaked and it is on its way out. The next sign that shooters will notice is they may experience a flier, or an errant bullet placement on target. Most competitive shooters will retire the barrel at this time because it will no longer perform at an extremely competitive level and will now use it for a practice barrel or a paper weight. Short Action Customs keeps most barrel contours, twist and calibers on hand to minimize down time.



## Use of Melonite on the rifle and barrel:

Short Action Customs will use Melonite on the action, bolt, barrel and small parts. Melonite is a surface hardening process designed to increase lubricity of working parts, help prevent galling while reducing wear on parts. This is also true for the bore of a barrel with certain calibers. Some companies that offer Melonite will claim a 50% increase in barrel life on magnum type calibers and 75% increase on non-magnum calibers. If your Short Action Customs rifle has a Melonited action or bolt, you will notice how smooth the bolt manipulation is compared to other actions.



Some considerations with Melonite.

- Darkening of metal from Melonite is just a by-product of the process. The dark color will wear off with time, but the metal is still treated. Areas like sharp edges and lines may not become darker after the Melonite process.
- An increase in velocity is not typical, but can be experienced after Melonite.
- Initial cleaning of the bore is required with Melonite.



This is an action with over 3000 documented rounds on it with various barrels. Note how the dark color has worn off on the high wear areas while still maintaining all the benefits of Melonite.

## **Frequently Asked Questions:**

### **What are the action screw and the barrel torque specifications?**

65 In. Lbs. on action screws, 100 Ft. Lbs on the action.

### **What is the barrel torqued to?**

100 Ft. Lbs

### **Should I Loc-Tite anything on the rifle?**

Only use Blue Loc-Tite on scope base screws if applicable and on the side bolt release pin threads.

### **Do I need to use an anti-seize product on the muzzle threads?**

Yes, we use an aluminum based anti-seize compound on the chamber end and on the muzzle end when there is no Melonite on the action, or barrel.

### **Why does the bottom bolt lug have more wear than the top, is this normal?**

Yes, the bottom lug should always have more wear than the top lug. This is because the trigger pushes the back of the bolt upward when the bolt lugs are locking with the action. This tilts the top lug forward while the bolt is being rotated and locked into battery. This is why the bottom lug shows more wear.

### **I am using Accuracy International AW magazines, sometimes I experience a failure to load. Why is that?**

The AW magazines are designed to work for the 308 Winchester cartridge in an Accuracy International rifle. The 308 Winchester has more body taper than most current competitive cartridges like the 6.5 Creedmoor. These cartridges can tip backwards more than cartridges based off of the 308 Winchester. Most shooters will not have problems, but some may experience this. Our actions and rifles are designed to achieve 100% reliable functioning with single feed magazines like the AICS 5 and 10 round magazines, but will most likely work with the double/stagger feed magazines like the AW magazine.

### **Will the Cerakote finish wear on my rifle?**

Yes, every finish available will eventually wear in time. Areas like the bolt body and action raceway will begin to wear first. Areas like the bolt handle, outside of the action and the barrel will look great for a very long time. Cerakote is one of the very best spray on finishes available.



## Guarantee and Warranty information:

Every Short Action Customs rifle has been meticulously machined and assembled to the highest standards. Short Action Customs has a 100% satisfaction guarantee on all the services that we perform. In addition, if there is ever a functional problem with a service that we perform or a product that we manufacturer, we will warranty that product at no charge to the customer. Our tactical rifles and barreled actions have a 1/2 MOA guarantee at 100 yards. Our hunting rifles have a 3/4 MOA guarantee at 100 yards. Hand loaded ammunition or factory match ammunition must be used. The team at Short Action Customs truly cares about our customers and puts their satisfaction at our highest priority.

The team at Short Action Customs greatly appreciates your business and will continue to serve the shooting community with the best precision rifles and products, the friendliest service and the greatest level of dedication. Thank you for your business.



Left to Right: Dan Calala, Josh Howell, Mark Gordon, Sarah Sutherland

Mark Gordon  
Founder and CEO



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