Recommendations for proper use and function of Pioneer Gun Works Rifles!

We here at Pioneer Gun Works take extreme pride in the craftsmanship that we have endeavored to instill and improve upon over the years. We understand that a smooth, functioning and QUALITY built firearm, with quality manufactured parts is key to our success, and over the years have appreciated the customer base that we have worked very hard to build and satisfy with our custom made rifles.

We also realize that there are many shooters with equally as many types of shooting styles ranging from preferred primer types and brands, brass, bullets and the fundamentals of the actual rounds. (overall length, bullet shape etc)

As competitive shooters in SASS for over 15 years, we have had the pleasure of working with literally thousands of happy customers and friends. We have experienced and compiled a list of issues that pop up from time to time as well as the remedies to these issues to insure the BEST experience when using a PGW rifle. Whether you are a competitive shooter, or just a firearms enthusiast with a desire to have the best quality running firearm, we will do our very best to enhance your experience to the best of our abilities!

Enclosed is a host of popular issues, recommendations and helpful tips to insure that your best informed with how to tackle even the most simple issues that we have encountered over the years! Use this as a reference tool to guide you and help educate you on the ways of the rifle! ;)

Fitting and Timing of PGW short stroke kits.

***I**f you are in the position to install a PGW short stroke kit on your own, and when going through the timing process of installing a PGW short stroke kit, it is important to note that the material removal from the lifter arm is a critical and sometimes time intensive process. Too little removed from the desired area (as shown in the installation instructions) will cause the carrier to interface with the bottom tab on the bolt and/or round in the chamber. Too MUCH material removed, and your timing will be thrown, causing the carrier to not reach the highest point on the forward lever throw. I encourage our customers to read through the installation instructions before, and DURING the installation of the kit to insure a through installation. If you are using a vice and a hand file to trim the material, it can be a bit tedious. But trust me, it is better to take your time with this than remove too much metal and require a repair job or a new lifter arm.

Misc. issues and suggestions.

***Y**ou may notice that when the hammer is back on your rifle and the **firing pin extension** is within the frame and pushing on the end of the **FPE**, that the **FPE** will not retract. THIS IS COMPLETELY NORMAL!! The retraction of the Firing Pin Extension happens when the hammer hits the back of the **FPE**. It may seem to the logical mind that the **FPE** SHOULD retract after pushing it in, but rest assured that this is a typical action of how the rifle functions and in no way hinders the proper use of the gun. It's just how it is made.

***W**hen you install a PGW firing pin in your gun, and you notice that when the bolt assembly is placed back together that the tip of the pin is protruding out of the face of the bolt. Take the pin out of the assembly and with a bench grinder, dremel or hand file, remove material from the BACK end of the firing pin. A small amount of removal at a time is preferred. Re-install the firing pin and the bolt assembly, and check to see that the pin is flush or barely behind the face of the bolt. If not, repeat the process until it is.

***M**ost issues regarding parts installation can be recognized by thoroughly reading over the installations instructions of our parts. The short stroke kits, coil mainspring conversion kits and action springs ALL come with fully illustrated instructions, explaining in detail how to properly fit them into your rifle. In the event that we have discovered an issue that must be attended to in order to properly install our parts, you will see a focus of these issues in **BOLD RED LETTERING** in the instructions themselves! Please make a note of paying close attention to these sections, as they will need to be acknowledged for proper installation and function of our parts and kits. You can download our instructions for free from our website on the "technical information" section of the site.

Ammunition, re-load issues and tips.

***T**hough there are MANY brands of mass-market ammunition available to the common shooter, we at PGW recommend that you ONLY use **re-loaded** ammunition through our rifles **-or-** store bought ammo that has a **lower-grain count**. Due to inconsistencies in the manufacture of store bought ammo, we have found that no load can ever be as precise as those you load by hand.
Our parts are made from a material that is lighter in alloy than the existing stock material of the gun parts. Because of this, they are designed to take the full force of a possible out-of-battery discharge caused by heavy loaded rounds, double loaded rounds or the like. This will preserve your rifle in the possible event this unfortunate mishap occurs. Of course, many shooters have good results with store bough ammo. In those cases we just say that beyond our recommendation, whatever ammo you wish to run through your rifle once we have built it is up to you. Again, we have built these recommendations over YEARS of experience and simply wish to help you avoid any issue BEFORE it happens.

***O**verall length of the round is important in how smooth the rifle with feed and properly cycle the rounds. We have found that an over all round length of between 1.44-1.56 will insure proper feeding and the smoothest cycling of the rounds. For re-loaders, this can be invaluable info, and allows for a wide variance on measurement in which to work with.

***T**he best bullet shape that we have found to insure proper feeding is known as a "round-nosed flat point". The best example would be the "38 AND 357 CALIBER RNFP HARD CAST LEAD BULLETS" that we sell on our website from Badman Bullets. We do NOT recommend the tapered flat-point, or otherwise known and "truncated cone" bullets due to the fact that they may have a tenancy to grip into the primer pocket of the following round. They can also sometimes also cause safety issues if the length is too long by compressing against the primers.

***A** tight and full "roll-crimp" on every round is highly recommended to insure proper feeding of the round into the chamber. For this, we recommend using the "Lee Factory" crimp die. You can purchase this retail for less than $20, and it will insure that the lip of the brass will not catch on the outside of the chamber entry point.

***P**roper choice of primers will insure a good rate of firing consistency every time! We recommend using Mag-tech, Federal or Winchester primers for the best rate of consistent fire.

***M**any types of brass can be successfully used in re-loading. However, as a suggestion, it is best to keep only ONE type of brass for the majority of your re-loads. For example, if you were to load ten rounds in your rifle, but have 20 rounds of two types of brass (ten of one and ten of another) separate them into two piles and use ten of one, than ten of the other. Many brass brands are quality, but not all brass is of the same dimensions. This can sometimes cause extraction issues, due to different thickness measurements of the rim. We only use "Starline" brass in the re-loads that we use through our personal rifles. Many people have asked for info on this, we can only tell you what we use and what we recommend.

Brass carrier modification, and aluminum carrier care for use in PGW rifles.

***M**any shooters like to use the existing brass carrier with our guns. However, due to the modification of the rifles we make, and with implementation of our PGW short stroke kits, the brass carrier will have to be slightly modified for proper use. This modification takes on average 5 minutes to do, and will give you that "old fashioned" feeling when cycling your rifle. For instructions on how to modify your brass carrier, please refer to the "Technical Info" section on our website. Once there, you will find a short video that explains to you in simple and easy to understand terms, just how to modify the stock carrier.

***I**t is NOT necessary to lubricate the PGW aluminum carrier ever, and in fact we strongly suggest against it. Many shooters live in different climates that are prone to dusty environments. Thick lubrication like White or Silver graphite has a strong tendency to attract fouling and dirt. In that event, the carrier will move very sluggishly, and won't perform properly. Make sure that the space that the carrier occupies is free of lubrication, grit, dirt, moisture, burrs and lead deposits before installing.

Lubrication.

***L**ubrication of your gun parts should only be done to critical parts that interface with others or against themselves. When lubricating, it is suggested that you use a LOW viscosity lubricant. Thick, petroleum type lubricants are messy to clean, and tend to "gum up the works". We at PGW, use a quality lubricant called "Machine Gunner's Lube" in our own rifles and in every custom built rifle. Originally manufactured for use in semi and fully automatic firearms, it was designed to withstand temperatures exceeding 500 degrees. When applied, it will seep into small areas and lubricates with a fine molly that stays where applied. You can purchase Machine Gunner's Lube on our website at Pioneergunworks.com