

This is the preliminary manual for the BFG-50 rifle. A full manual will be available in the future, but for now please read this short (but important) document to familiarize yourself with the BFG-50.

### 1) INTRODUCTION/SAFETY WARNINGS

The BFG-50 is a bolt-action, hammer-fired .50 BMG caliber rifle. Though it has a unique action, it is a very basic and simple firearm, and is reliable and rugged. It is constructed of top quality MIL-spec steel, and key parts are heat treated for strength. Each gun is test-fired before shipping. If properly cared for, your gun should last a lifetime.

**WARNING: FIRING OUT OF BATTERY** - The BFG-50 is very strong, but all that strength won't help a bit if a round fires out of battery (i.e., without the bolt locked into the action). The only way that a round can ever fire out of battery on the BFG-50 is if the bolt is opened during a hangfire and the round happens to go off. Much of the .50 BMG ammunition available is military surplus. While this ammo is generally fine, a lot of it contains very hard primers so sometimes a round won't go off on the first pull of the trigger. This is known as a hangfire. If a hangfire occurs wait at least 60 seconds and follow the procedure below to recock the hammer, and realize that the action is unlocked while the bolt handle is lifted. The round may be ejected in lieu of attempting to fire it again, of course. The BFG-50 rifle is basically a firearm like any other, and should be treated with the same respect. The same safety rules that one should follow with any firearm should be followed for the BFG-50. Beyond that, the firer should be aware of how incredibly powerful the .50 BMG cartridge is, and keep this in mind when selecting a backstop. NEVER fire the BFG-50 into the air! A .50 BMG rifle makes a very large muzzle blast and the muzzle brake directs a large portion of this back in the direction of the shooter. Hearing protection is a must for the firer and anyone close by!! It should go without saying that safety glasses are a must, too. The BFG-50 is designed to shoot military surplus as well as match ammunition. Commercially reloaded ammunition from a reliable source may be used but here's a caution: NEVER use underloaded ammunition. Some may desire to load the .50 BMG cartridge with a smaller charge in order to reduce the recoil. If the charge is sufficiently small, a much larger surface area of propellant can be burned than would normally be, causing a severe overpressure situation, possibly even a detonation. The results could be catastrophic. It cannot be stressed enough not to use underloaded ammunition! Another caution about reloaded ammunition: make sure that if you do use reloaded ammunition, that it has had the primers replaced during the reloading process. Modifications to any part of the BFG-50 are not recommended and may be unsafe. In the event of a hangfire (the situation described above, where a round does not go off when the trigger is pulled), do the following: 1) Wait 60 seconds. 2) Quickly lift the bolt handle all the way up and push it back down, recocking the hammer (you want the action unlocked for as short a time as possible). 3) Fire again. If the round does not fire on the second try, wait 60 seconds and eject it. Note that some have experienced misfires with the BFG-50 because they've attempted to fire the gun without the bolt handle being fully down. Because the bolt's cocking cam starts to retract the hammer as soon as the bolt is lifted, any position of the bolt handle other than fully down will not allow the hammer to reach the firing pin.

**WARNING: EXTRACTING AN UNFIRED ROUND WHICH LEAVES THE BULLET IN THE CHAMBER** – Some of the lesser quality military surplus ammunition that we've encountered is so dimensionally out-of-spec that when a round is chambered (not fired) and ejected, the bullet is sometimes left behind in the chamber. It will be immediately obvious that this has happened, as the case tends to dump gunpowder all over the place as it ejects. If this happens, make sure that you remove any powder that may have gotten into the lower (trigger group). The large powder grains can get stuck under the trigger and not allow it to catch the hammer as it's cocked. Powder may be removed from the lower by simply shaking the gun upside down, or by blowing out with compressed air through the hammer slot in the receiver tube. In extreme cases, the lower may be unpinned from the gun and cleaned out. Of course, make sure to remove the stuck bullet from the barrel before attempting to fire the gun.

### 2) USE

To load the BFG-50, insert a round through the ejection port and into the chamber and close the bolt. After firing, lift smartly on the bolt handle to eject the spent cartridge. Some of the surplus military ammunition that is available out there is very hard to extract, and it's not a bad idea to have a rubber mallet handy to smack the bolt handle up when this ammo is encountered. A lot of older (early 1950's and earlier) surplus ammunition uses corrosive primers. Make sure you clean the gun very soon after firing any corrosive ammo! The barrel alone on the BFG-50 costs more than many complete rifles; it would be a shame to destroy it with rust.

### 3) DISASSEMBLY

The BFG-50 isn't meant to be disassembled beyond removing the bolt for cleaning. To remove the bolt, do the following: Unscrew the socket head cap (Allen) screw at the base of the perforated triangular brace. Hinge the buttplate up. With the bolt all the way back, there is an access hole which allows you to remove the screw that attaches the bolt handle to the bolt. Remove the bolt handle (note the orientation of the handle with it's angled cut on one side) and take the bolt out from the back of the gun. If it is ever required to gain access to the trigger or hammer, the trigger group must be removed. To remove it, do the following: Using a punch or press, carefully press out the two .25" diameter pins which attach the trigger group to the main receiver tube. These pins, as well as the hammer and trigger pins, should be pressed out from left to right. The reason for this is that the holes on the left side of the trigger group are smaller in diameter than those on the right.

#### 4) BREAK-IN

For the first several dozen rounds fired through the BFG-50, the action may be a bit tight (chambering and extraction). If you don't already have a rubber mallet, you may now find a use for one. Due to variances in ammunition dimensions, some ammo is always hard to chamber, but this is most apparent when the gun is new. We don't have a recommended procedure for barrel break-in.

#### 5) MAINTENANCE

Aside from cleaning of the bore after a day's firing, the BFG-50 needs only periodic cleaning and lubrication. A molybdenum disulfide grease is what we use on the bolt lugs, hammer camming surface on the bolt and hammer sear notch. It is not necessary to use this grease, but there should always be some sort of lubrication on these surfaces. The inside of the receiver may be oiled with any standard gun oil like Hoppes, Break Free, etc. Dirt and dust that gets inside the receiver tube or trigger group should be removed. Shaking the gun upside down should allow any loose dirt that has entered the trigger group to escape. If you ever encounter a situation where the hammer doesn't get caught by the trigger upon cocking the bolt back, you probably have debris in the trigger group which won't allow the trigger to spring forward to its normal, rest position. In extreme cases like this, the trigger group may have to be removed for cleaning. Make sure that the bolt handle is always tight; if it becomes loose, the retaining screw can back out and scrape on the inside of the receiver. The parkerized (manganese phosphate) finish on the BFG-50 is very durable, and is basically maintenance-free with the exception of an occasional wipe-down with an oiled rag. We use LPS-2 spray oil on the exterior, but any gun oil will do fine.