

RN-50

Operation & Safety Manual

This is the preliminary manual for the RN-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 RN-50.

INTRODUCTION/SAFETY WARNINGS

The RN-50 is a modified break-action with screw-on breech cap, 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 RN-50 is very strong, but all that strength won't help a bit if a round fires out of battery (i.e., without the breech cap screwed on). The only way that a round can ever fire out of battery on the RN-50 is if the breech cap is removed 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. In the event of a hangfire (when a round does not go off when the trigger is pulled), do the following: 1) Wait 60 seconds. 2) Recock the hammer. 3) Fire again. If the round does not fire on the second try, wait 60 seconds and extract it. The round may be extracted in lieu of attempting to fire it again, of course. The RN-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 RN-50. Beyond that, the firer should be aware of how powerful the .50 BMG cartridge is, and keep this in mind when selecting a backstop. NEVER fire the RN-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 RN-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! Modifications to any part of the RN-50 are not recommended and may be unsafe.

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 extracted, 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 is removed. 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. In extreme cases, the lower may be unpinned from the rifle and cleaned out. Of course, make sure to remove the stuck bullet from the barrel before attempting to fire the gun.

USE

To load the RN-50, gently ease the hammer back to the half-cock position. Pull the break lever (located just forward of the trigger guard) to the rear and pivot open the action. Unscrew the breech cap and insert a .50BMG cartridge into the chamber. Screw the breech cap back on being sure that the threads are fully engaged. You should not be able to see a gap between the cap and the face of the receiver when the threads are fully engaged. Since some of the lesser quality military surplus ammunition is out-of-spec you may have to apply significant torque to the cap (a 7/8" wrench may be applied for this purpose). Close the action of the RN-50 and when ready to fire, cock the hammer the rest of the way. The RN-50 is now ready to fire.

After firing, break the RN-50 open again using the break lever. Unscrew the breech cap. Occasionally the cap may be difficult to remove; thus the nut milled into the breech cap. If necessary you may use a wrench on said nut to facilitate opening of the breech cap. Removal of the spent casing is easiest to achieve with the rim of another spent casing. 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!

DISASSEMBLY

The RN-50 isn't meant to be disassembled beyond removing the breech cap and separation of the upper from the lower via the takedown pin. To separate the upper from the lower, do the following: break the action open with the break lever. (Removal of the takedown pin is easiest when the action is neither fully open or fully closed) Push the end of the spring that protrudes from the side of the takedown pin towards the center of the pin while simultaneously pushing the takedown pin out. Once the head of the takedown pin is stuck out far enough, you can grasp it and pull it out. (Be sure to hold both the upper and lower securely)

BREAK-IN

For the first several dozen rounds fired through the RN-50, the break lever may not engage with the receiver lug fully. This can cause the action to break open upon firing (this is NOT at all dangerous). There are 2 operations you can perform to avoid and alleviate this. When you close the action of the RN-50 if you can push the break lever forward at all it still needs a little breaking in. When you close the action pushing the break lever as far forward as it will go will keep it from breaking open upon firing. To hurry the break in process along open and close the action pushing and pulling the break lever forward and backward. This will wear the surfaces that engage each other until they match each other. Once this process is complete, the break lever will snap itself forward fully upon closing each time. We don't have a recommended procedure for barrel break-in.

MAINTENANCE

Aside from cleaning of the bore after a day's firing, the RN-50 needs only periodic cleaning and lubrication. A molybdenum disulfide grease is what we use on the hammer sear notch. It is not necessary to use this grease, but there should always be some sort of lubrication. Dirt and dust that gets inside of the trigger group should be removed. 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. The parkerized (manganese phosphate) finish on the RN-50 is very durable, and is basically maintenance-free with the exception of an occasional wipe-down with an oiled rag. We use LPS-1 spray oil on the exterior, but any gun oil will do fine.

NOTES

To avoid the rare occurrence of the breech cap sticking after firing you may consider applying a light coating of "anti-seize" compound that can be found at any auto parts store, to the threads of breech.

Should a wrench be required to facilitate the removal of the breech cap, putting a piece of masking tape of each side of the wrench can help to protect the finish of the cap from being marred by the wrench.

When firing from a bench or table, to keep the barrel pointed level at your backstop while reloading, slide the butt of the rifle over the edge of the table/bench so when the action breaks open the rear of the rifle can drop clear of the breech exposing the breech cap without the barrel being raised.

Initial sighting of the rifle can be facilitated by removing the breech cap and looking down the barrel and comparing it to the sight picture in your scope. Obviously your rifle would need to be in a vise or rest for this to be useful.

Since the majority of the parts in the RN-50's trigger group are standard AR-15 trigger parts, spring kits like those offered by JP may be used to lighten the trigger pull.

The grip of the RN-50 is a standard AR-15 grip and as such can be replaced by any AR-15 grip.

To reduce the recoil of the RN-50 weight can be added to the stock tube, or buffer tube if you chose to install an AR-15 stock.