

BoreBuddy.com AR-15 22lr Reliability Kit

Instructions for Installation and Use

(Draft, Rev 1.3, may not be complete)

WARNING! Exercise careful firearms handling procedures at all times. Ensure the weapon is unloaded prior to installation of the components provided in this kit. BoreBuddy recommends a double visual chamber inspection (look once, look away, look again), followed a physical chamber inspection to ensure the rifle is unloaded. This kit is intended for training or recreational purposes only, any unlawful use is strictly forbidden.

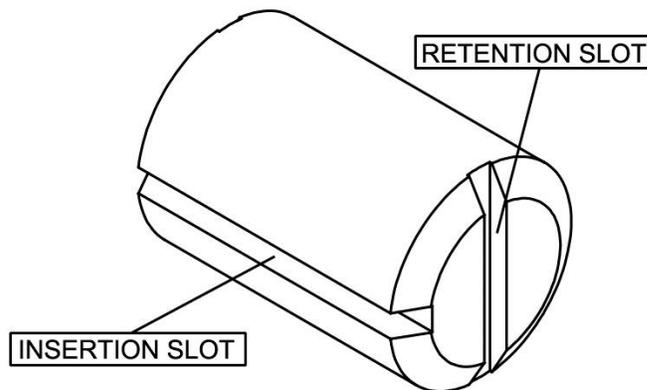
Always wear eye and ear protection when discharging firearms (yes, even 22lr!)

Buffer Pressure Plug

Purpose: Increase cycling reliability by applying steady forward pressure to the back plate of the 22lr bolt carrier, bolt and chamber adapter assembly. This increased reliability is due to: 1.) The pressure results in more consistent seating (and thus positioning) of the chamber adapter to the rifle's chamber and 2.) The pressure minimizes bouncing of the assembly during firing.

Installation instructions:

The plug is designed with two features which make use quick and simple:



- 1.) An insertion slot along the length of the cylinder allows quick and easy insertion without a need to depress the buffer retaining pin. Simply align the insertion slot with the buffer retention pin and push straight rearward to insert.
- 2.) A retention slot in which the buffer pin rests to keep the plug aligned. This slot serves a secondary purpose of allowing the use of a coin, flat blade screwdriver, or similar object to be used to twist the plug for insertion or removal.

To insert the plug, pull the rear takedown pin and hinge the upper receiver away from the lower receiver. Align the insertion slot with the buffer retainer pin, press straight back and twist the plug $\frac{1}{4}$ turn in either direction to allow the buffer pin to drop into the retention slot. The plug is symmetrical and can be inserted either way. Close the upper receiver and replace the rear takedown pin. Removal is the reverse of installation.

Note that on some buffer springs the spring will become preloaded from twisting the plug $\frac{1}{4}$ turn. While this does not cause damage or affect the function of the plug, some users find it useful to turn the plug $\frac{1}{2}$ turn and then back $\frac{1}{4}$ turn to remove the rotational preload. While most rifles will allow the plug to be rotated with ease, if difficulty is encountered, use a coin in the retention slot to help with turning the plug.

Properly installed plug:



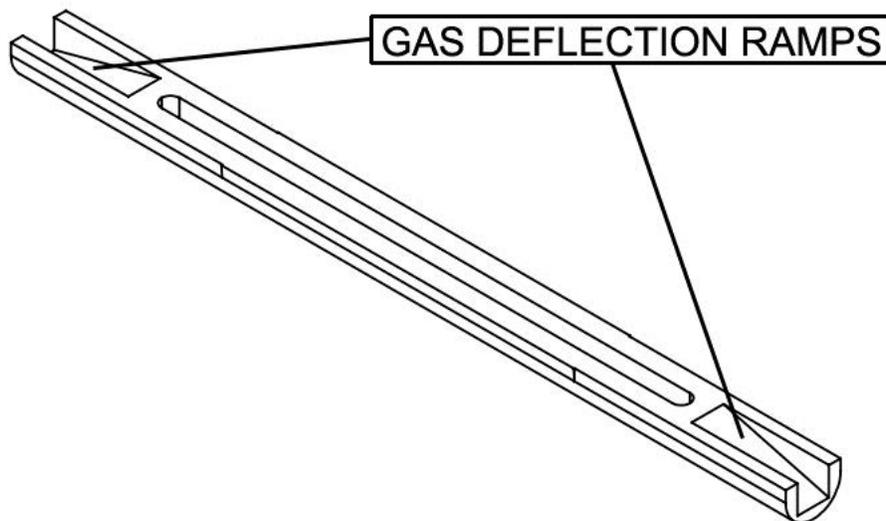
Charging Handle Insert

Purpose: To increase cycling reliability by preventing 22lr casings from getting caught in the charging handle and to deflect gas from the gas away from the shooter during firing. **This insert allows the**

shooter to train using their normal charging handle while still getting the reliability and gas deflection benefits of a dedicated 22lr charging handle.

Installation instructions:

The insert is designed to be compatible with all standard charging handles. The insert features gas deflection cuts to redirect gas from the open gas tube and block the open channel leading back towards the shooter, reducing the puff of gas felt when shooting a 22lr conversion kit in a 556/223 chambered rifle.



To install, simply align either end of the insert with the center of the front tabs and press firmly into the charging handle.



Proper positioning is shown in the above photo. Please note that placing the insert too far towards the front of the charging handle may result in interference with the rifle's gas tube, and may cause malfunctions and/or damage to the gas tube if forced closed.

A properly installed insert is shown below and should sit about 0.030" below the bottom surface of the charging handle:



To remove the insert, pry from the back edge:



Extractor Springs:

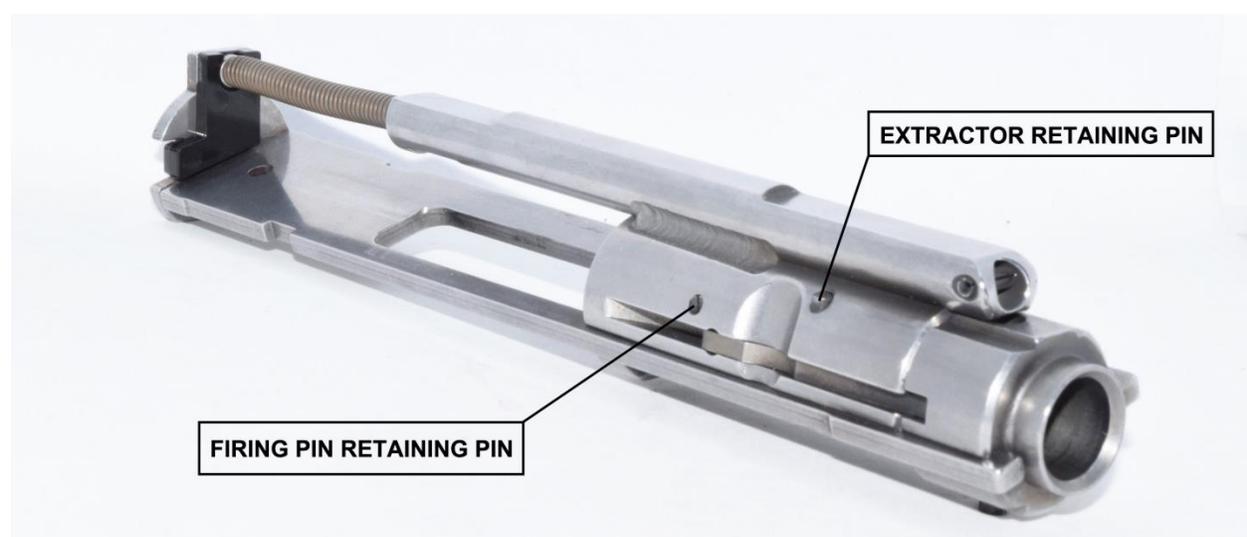
Extractor springs are provided in two different strengths for better extraction especially as the chamber becomes fouled. To install, drive the extractor pin out from top to bottom, remove the extractor and spring. Replace the spring with the BoreBuddy power extractor spring and align the hole in the bolt and extractor and re-insert the pin. **See diagram in firing pin section for retaining pin locations.**

Firing Pin Springs:

The firing pin springs are installed on the narrow end of the firing pin. To install, remove the firing pin retainer pin. Once the pin is removed, the firing pin will fall free from the assembly. The old firing pin spring may also fall free, or it may have to be pushed out. A stuck spring can usually be dislodged by inserting a pick or similar small diameter object through the firing pin hole and pushing it out towards the rear of the bolt. It can also be fished out from the back in a similar manner. Check to ensure the firing pin channel is clear of debris and fouling before installation. Place the new spring on the end of the firing pin, and insert both into the bolt and replace the retaining pin.

Premium Firing Pins:

The BoreBuddy premium firing pin installs exactly like the stock pins. Simply pull the firing pin retaining cotter pin, remove the firing pin and replace with the premium firing pin. Our premium pins are extremely tough and have a much longer life than the stock pin.



Bolt Buffers:

The bolt buffer installs quickly and easily into the back plate of the bolt carrier group without bolt disassembly. Simply compress the rod and spring into the bolt, creating a gap between the rod end and the back plate. Place the end of the rod into the hole in the buffer, align the tab on the buffer with the cutout on the back plate and place the rod end into the hole in the back plate.



Note: if you have an older kit without the cutout on the back plate, the tab on the buffer can be clipped off. The buffer will not automatically align with the upper receiver without the tab, so care will be needed when replacing the bolt carrier assembly into the upper receiver to prevent binding from the buffer rotating.

Bolt Weight installation (both types):

The bolt weight assembly slips under the spring shroud and the notch on the back of the bolt engages the notch on the spring shroud. There may be some play in the bolt weight fit due to variations in the bolt assembly, but this will not harm the performance of the bolt weight. See photos below for orientation of the weight before and after installation. Some users find it easier to depress the firing pin by hand and slide the weight directly in, while others find it easier to put the front of the weight in place and then rotate the back of the weight under the shroud until the notch is engaged.





Adjustable Bolt Weight adjustment:

The adjustable bolt weight comes with internal weights made from aluminum, steel, and tungsten which are used to adjust the weight from 1.3oz to 2.75oz. The most common configurations are as follows:

Weight (empty): **1.3oz**

Weight with aluminum inserts: **1.5oz**

Weight with stainless steel inserts: **1.9oz**

Weight with tungsten inserts: **2.75oz**



Mixing and matching material types gives additional variability. Tune the weight system by starting with the weight in a low-weight configuration and adding weight until performance of the system is optimized. Note that the two small weights are the same weight as one large weight of the same material. We suggest the following starting points for the following two barrel lengths and ammo combinations:

4.5" barrel:

Subsonic: empty weight

High velocity: empty weight or weight with aluminum inserts

Hyper velocity: weight with aluminum or steel inserts

16" or longer barrel:

Subsonic: weight with aluminum or steel inserts

High velocity: weight with steel or tungsten inserts

Hyper velocity: weight with tungsten inserts

WARNING: Add weight slowly and test to ensure 100% bolt lock back is achieved by loading a single round in the magazine and firing before choosing that weight. If bolt lockback is not achieved, reduce the bolt weight. Observe all safety measures and only discharge a weapon when and where safe and legal to do so.

For example, if using high velocity ammo in a 16" barrel, start with 4 steel weights installed. If the bolt does not lock back, drop the weight one material type (from all steel to all aluminum in this case). If more weight is required, replace one small steel weight with a tungsten weight. If still more weight is required, replace a large steel weight with tungsten, and re-install both steel small weights. If more weight is required, replace one small weight with tungsten, and so on. One large weight is equivalent in weight to two small weights of the same material. Ensure that each hole always is either completely empty or contains two weights, do not install only one weight.

Contact Us

Thank you for your purchase of the BoreBuddy AR-15 22lr reliability components! Should you have any questions please visit our website (BoreBuddy.com) and check the frequently asked questions and join the forums and ask the community (forums.borebuddy.com). If you need to contact us directly, click the "Contact Us" tab.

For **wholesale inquiries or bulk order for clubs, organizations, or law enforcement agencies**, please email Sales@BoreBuddy.com or contact us by our contact form.