

The Lambeth Savage Bolt Lift Kit instructions:

The Lambeth Savage Bolt Lift Kit (herein after called LSBLK) is a simple solution to improve the stiff bolt lift on Savage model 10/110 style rifles. We will start with some basic Savage nomenclature. The Savage bolt action rifle comes with a main screw, bolt handle, bolt body, bolt head, bolt head retaining pin, cocking piece sleeve, cocking piece, cocking piece pin, cocking piece lock washer, firing pin, firing pin stop washer, and firing pin stop. All of these components has a unique function and need to work together to make the savage rifle function properly.

The LSBLK will work on either factory Savage bolts or several other replacement bolt bodies. The LSBLK requires modification of the cocking ramp by de-burring it. When cutting the bolt bodies, the CNC process leaves a burr at the juncture of the cocking ramp and the shelf where the cocking piece pin resides before going into the battery position. This is where the sear lifts the cocking piece pin off the shelf located on the bolt body. The bolt bodies are quite hard and the deburr needs to be done with a stone or carbide end mill. I recommend the use of a rotary stone, like a chainsaw chain stone in a Dremel tool or die grinder. Use caution and only remove the burr.

The LSBLK comes with a modified Main screw that has a .250" x .750" x 28tpi grade 8-cone point setscrew inside the main screw. This screw is held in place with lo strength Loctite™ thread locker. The second part of the bolt lift Kit is a small-shouldered cap made of steel with a center indent on the backside. The front of this cap fits inside the back of the factory Savage Cocking piece sleeve when assembled. This cap should fit freely in the back of the cocking piece sleeve.

The firing pin spring is compressed between the cocking piece lock washer and the firing pin stop lock washer. The firing pin is threaded .250" x 28 tpi and machined half round. These two locking washers are machined to fit over the half round firing pin moving forward and backward but not turning. These two locking washers have interlocking finger that mate with both the firing pin stop in the front and with leading edge of the cocking piece sleeve. The purpose of these two locking washers is to allow for adjustment firing pin protrusion. The cocking piece lock washer serves two purposes in the rear of the firing pin. It adjusts the spring tension on the firing pin and adjusts the location of the cocking piece pin in its relationship with the cocking ramp in the bolt body. This is important in understanding how to make Savages shoot the best they can. The bolt stop should bottom out on the bolt head-retaining pin and the cocking piece pin should not bottom out at the bottom of the cocking ramp. There are two reasons for this. If the cocking piece pin bottoms out first it will cause the entire bolt body to torque sideways thus causing a sideways slap of the floating bolt head. This will cause the gun to shoot fliers and the cocking piece pin will eventually crack the bolt body where it strikes the bottom of the ramp. The firing pin needs to strike the primer first, retarding the firing pin strike just a little and then the firing pin stop should strike the bolt head-retaining pin. This strike force is straightforward in alignment with the bore thus it causes less disruption of the bullet leaving the case into the bore. Savage rifles are assembled from pre-machined parts that allow them all to function the first time without having too much adjustment. Because of this, most Savage rifles are actually over cocking.

Savages cock on the bolt lift, and this contributes to the hard lift. We suggest you relax the tension on the firing pin approximately four complete revolutions. This brings the cocking piece rearward, and the cocking piece pin away from the bottom of the cocking ramp. I recommend you do this with caution as too many revolutions will allow your firing pin to come apart violently. This could cause you injury. I suggest you use a Lambeth Savage firing pin compressor during this process. With the cocking piece pin adjusted approximately .080" of an inch off the bottom of the cocking ramp. Now you will need to adjust the cocking piece so the hole lines up with the cocking piece sleeve. The fingers in the cocking piece sleeve mate with the cocking piece lock washer. I suggest you use some 800 grit wet/dry emery paper to de-bur the cocking piece sleeve on both ends. Clean up removing any grit. I find clean dry cocking pieces and cocking piece sleeves work best. I dab a small amount of grease between the shouldered cap and the cocking piece sleeve as I reassemble it. I also put a small dab of grease in the indent in the back of the shouldered cap. Return the bolt handle to the back of the bolt body lining up the guide tabs and making sure the bolt handle is set so when in battery the cocking piece can move forward. The main screw should have the inner setscrew just showing the cone section of the setscrew protruding out the front of the main screw. Tighten the main screw until it bottoms out on the back of the bolt handle. Now take a piece of brass or aluminum to advance the cocking piece pin up the cocking ramp onto the shelf. I put a dab of grease on the cocking ramp to lubricate the cocking piece pin. Now reinstall the rear baffle aligning it so the ramp on the bolt handle will ride up the ramp on the rear baffle. This should also be lubricated with a dab of grease.

You are now ready to reinsert and test fire your rifle. This should be done the first time with an empty chamber just to test the function. After test firing, you should notice a significant reduction in bolt lift upon cocking. The next test will be firing your rifle with a live round. With the muzzle pointed in a safe direction load and fire your rifle. If the rifle fails to fire, insert a small Allen wrench into the setscrew inside the main screw. Advance the setscrew 1/2 a revolution and test fire your rifle again on a new round. It should have already gone bang. You want the rifle to function with the lightest possible settings, then you can advance the setscrew as the firing pin spring loses its' strength. I recommend replacing the firing pin spring every time you re-barrel your rifle.

Now you have successfully installed the LSRBLK. It serves two purposes, one it reduces the force necessary for bolt lift and two it has given you the ability to adjust your firing pin tension externally without having to disassemble the bolt. If you do not feel comfortable doing this modification and parts replacement have a competent gunsmith do it for you.

Properly "Trued and Timed" Savage rifles can be just as accurate, if not more accurate than any other factory rifle.

I also have the Lambeth Savage Firing Pin Compressor if you need this tool.

Nathaniel G. Lambeth, Sr., Custom Guns and Ammunition, 15 Sunflower Drive, Youngsville, NC 27596 919-556-0554 DOES NOT assume any liability for damage or injury from the use or misuse of this bolt lift kit.