Ruger Mark II Trigger Replacement

Any time you’re going to work on any firearm, start by making sure it is unloaded (remember those Four Rules?). Also, be forewarned...I’m not a trained gunsmith – just a guy who likes to work on guns. As such, there may be omissions or inaccuracies in the following information. I am **not** responsible for anything that happens if you choose to try to do this yourself. If you have any doubt about what you are doing, or about the suitability of any part or product for use with your firearm, you should **always** consult a competent gunsmith or the manufacturer of your gun. Safety first!

To replace the trigger on your MkII, start by field stripping it. Make sure the hammer is in the fired position, then use a small screwdriver to open the latch on the mainspring housing so that it can be removed (fig. 1). Be careful not to slip and scratch the frame or drive the screwdriver into your hand while you’re doing this. Once the latch is opened, you can pivot the mainspring housing upward out of the grip and then remove it by pulling it straight down.

Figure 1 - The mainspring latch is located on the back of the pistol’s grip.

Once the mainspring housing is out, remove the bolt assembly by withdrawing it to the rear. The barrel and receiver may then be tapped gently forward and removed. Take the grips off, and field stripping is complete (fig. 2). By the way – when removing the grips, make sure you use the proper screwdriver so you don’t booger up the screws. Wheeler Engineering makes an excellent set of screwdrivers designed specifically for gunsmithing. Not only do thrashed grip screws mark you as an incompetent tyro, they also tend to hurt your hand when you shoot. So do it right.
Once your MkII is field stripped, you can begin removing the internal components as necessary. This is accomplished through the removal of three pins: the hammer pin, which has to be removed from right to left (as you are holding the gun in firing position); the trigger pin, which has to be removed from left to right; and the sear pin, which can be removed either direction (see figs. 3 and 4). You may be able to simply push the hammer and sear pins out with a punch, or you may need to actually tap them out with a small hammer. The trigger pin is held in place by a retaining spring that engages a notch on the body of the pin – more on how to deal with that later on.
Before removing any pins or parts, look down into the frame from above and take note of the location of all the internal components (fig. 5). Most of what you see there will be coming out before you’re done, so if you need to take a photo or make a sketch to keep track of how things go, do it now.

Now remove the hammer pin, pushing it out from right to left (there is a large flat head on the left end of the pin, so it can’t be removed the other way). This will allow you to remove the hammer and hammer bushing, the safety, and the bolt release (see fig. 6). Note that the bolt release is actually located on the outside of the frame. Removing this pin will also free up the back end of the disconnector (also referred to in some circles as the trigger bar) and allow it to be rotated up off the sear.
Figure 6 - Removing the hammer pin allows removal of the hammer and hammer bushing, the safety, and the bolt release.

You may need to wiggle the safety around some to get it to come loose. **Be extremely careful when doing this.** The safety contains a very small spring-loaded ball and plunger assembly (see fig. 7) that will probably fall out, and can easily be lost. This spring-loaded ball is the part that keeps the safety securely in either the “safe” or “fire” position, so you’ll need it later. Make sure you remove the safety over a workbench or some other surface where you can keep track of the ball when it falls. If you get the safety out but can’t find the ball and didn’t see it drop on the bench, check to see if it came out inside the frame and became trapped among the other parts (this happened to me...30 seconds or so of panicked “Oh crap where did that little thing go” ensued until I found it).

Figure 7 - View of the safety assembly once removed from the firearm. The ball-and-plunger assembly indicated can easily fall out and be lost if you’re not careful when handling it.
If you want to, you can now remove the sear and sear spring by pushing the sear pin out from either side. I chose to leave the sear in place (fig. 8), since I wasn’t replacing it and didn’t need to remove it in order to take out the trigger.

![Image of sear and sear spring](image)

**Figure 8** - I left the sear and sear spring in place, but they can be removed if desired by punching out the sear pin.

The trigger pin is retained in the frame by a spring that engages a groove in the right side of the pin (fig. 9). In order to remove it, you’ll need to use a small punch or similar tool to push the spring downward while pressing the pin out of the frame from left to right. This operation is easier if you have help or can grow a third hand, especially if you find that the pin fits tightly and needs to be tapped out with a hammer and punch. Like the hammer pin, the trigger pin can only be removed in one direction.

Once the trigger pin is out, remove the bolt stop (refer back to fig. 5 if necessary) and the bolt stop spring. It’s easiest to use a pair of tweezers or small needle-nose pliers to grasp the pin attached to the bolt stop spring and withdraw it to the rear.
Figure 9 - The trigger pin retainer spring seats in a groove on the trigger pin, and has to be moved out of the way to remove the pin.

You can now remove the trigger by rotating the disconnector upward and pulling it and the trigger out of the frame together. Be careful not to lose the trigger spring and plunger, which are seated in a hole in the top of the trigger. When the pistol is fully assembled, these are held in place by a protrusion on the disconnector (refer once again to fig. 5). Once the disconnector is rotated out of position, they can easily fall out and be lost.

At this point, you will have removed all the internal parts except for the sear, sear spring, and trigger pin retainer spring. As with the sear, you can remove the retainer spring if you need (or want) to do so, but in this case I did not.

Figure 10 - With the trigger pin out, the trigger and associated parts can be removed from the gun.
Now you’re ready to install the new trigger and begin reassembly. The Volquartsen trigger I put in my gun comes with a new trigger spring and plunger, which should be installed with the trigger for optimum performance. The pre- and overtravel screws should be left backed out until the unit is installed, then adjusted once everything is put back together. This will keep them from possibly interfering with proper reassembly.

![Figure 11](image-url) - The Volquartsen target trigger I purchased came with a new trigger spring and plunger optimized for proper performance.

Insert the short pin on the left side of the disconnector in the top hole on the trigger, then put the trigger and disconnector back into the gun (remember to raise the disconnector to the vertical position while inserting the unit into the frame). You can either place the trigger spring and plunger in the recess in the top of the trigger now, or wait until the trigger pin is back in place before doing so. If you decide to wait, don’t forget to install them before you finish reinstalling all the internal parts – otherwise you’ll find yourself having to pull the hammer pin again so you can move the disconnector in order to put them in (like someone I know had happen to him...).

With the trigger in place, you can return the bolt stop spring to its recess in the front of the frame (use your needle-nose pliers for this), then replace the bolt stop. Make sure the pin on the back end of the bolt stop spring is aligned so that the front edge of the bolt stop fits into the groove on it. You can then replace the trigger pin. Remember that the trigger and hammer pins are not interchangeable – the trigger pin is the one with the retaining notch cut into it and the smaller head (fig. 12). It must be inserted from right to left, and you will need to push the retaining spring out of the way again in order to get the pin started.
Figure 12 - The hammer and trigger pins on the MkII are not interchangeable, but are easily distinguished from one another.

Your next step should be to return the safety to the frame. Remember to be careful and not lose that little spring-loaded ball while you do this. When properly installed, the notch on the bottom edge of the safety should engage the top edge of the sear, holding it in the proper position (fig. 13). Once the safety is installed, put the bolt release in place on the outside of the frame. There is a notch on the front edge of the bolt release that fits over a protruding knob on the bolt stop (fig. 14); the knob will then help hold the bolt release in position until you can get the hammer pin back in place.

Figure 13 - When properly reinstalled, the notch on the bottom edge of the safety should engage the top of the sear and hold it in position.
Since I was installing an aftermarket bolt release on this gun, I simply replaced the factory part with the new one during reassembly. The advantage to using the Volquartsen bolt release is that it extends farther out from the gun than the original release (fig. 15), making it easier to engage with my thumb while reloading or while manually locking the bolt to the rear. It’s not an essential modification, but it is a nice ergonomic improvement.

At this point, I found it easiest to start the hammer pin (inserting it from left to right) so that the bolt release and safety are held securely in place for the remainder of the reassembly process. With that done, you can reinstall the hammer and hammer bushing. I found that inserting the protruding right edge of the hammer bushing into the cutout on the...
disconnecter (see figs. 16 and 17), then lowering everything into place together, worked best for me. When doing this, make sure that the hammer strut (the little “tail” hanging from the bottom of the hammer) goes properly into place behind the sear. Once all the components are properly lined up, finish inserting the hammer pin the rest of the way.

![Hammer, Hammer Bushing, and Hammer Strut](image1.png)

**Figure 16** - When reinstalling the hammer, make sure the right side of the hammer bushing engages the cutout in the disconnector.

![Disconnector](image2.png)

**Figure 17** - The MkII's disconnector, showing the cutout that the hammer bushing engages when properly installed.

With all the internal components installed, you can now finish assembling the gun. Place the barrel and receiver on top of the frame and tap it rearward so that it locks into place, then slide the bolt assembly into the action from the rear. Now the fun begins – reinstalling the mainspring. The “trick” here is to tilt the gun forward (muzzle pointed down), squeeze the trigger, and let the hammer fall forward into the “fired” position. This will position the
hammer strut above and forward of the cross bar inside the top part of the grip (fig. 18). You may have to tap or shake the pistol to get the hammer to move, since it is not under spring pressure at this point.

**Figure 18** - Hammer strut is properly positioned to begin installation of mainspring assembly. Note how it is above the crossbar in the grip, not resting against it.

Now take the mainspring and insert the top, rounded portion of it upward into the receiver of the pistol. When it is fully inserted, you should be able to see the top of it sticking up slightly above the receiver as shown in fig. 19. The mainspring housing should **not** be coming in contact the hammer strut when you do this. If the hammer strut is touching the mainspring, it’s in the wrong place, and will hinder installation of the mainspring assembly. If this happens you’ll need to reposition the hammer strut as discussed above.

**Figure 19** - Installing the mainspring. Note how the top part of the mainspring assembly is visible above the receiver.
Holding the mainspring in place as shown in fig. 19, depress the trigger again, rotate the pistol so that the muzzle is pointed upward, and release the trigger. This should cause the hammer strut to fall backward past the crossbar, positioning it so that it will properly engage the mainspring housing when installation is complete. Now rotate the mainspring housing forward into the grip as shown in fig. 20, and flip the latch forward to secure it in place. (Protip: It works best if you keep the muzzle of the gun pointed upward while you rotate the mainspring housing into the grip.)

Figure 20 - Almost done with reassembly. Once the mainspring is back in position as shown, flip the retaining latch up to secure it in place.

If the hammer strut was properly positioned when you latched the mainspring assembly in place, you should now be able to retract the bolt to the rear without any difficulty. If you’re unable to do this, remove the mainspring and reinstall it, being sure to follow the instructions above.
Congratulations! You’ve just finished replacing the trigger in your Mark II. If you put in an adjustable trigger, now’s the time to start getting it adjusted. Remember to always make sure your pistol is unloaded before doing this.

The Volquartsen trigger I used is adjustable for both pre-travel (how far the trigger will “creep” when you depress it before the shot is fired) and overtravel (how far backward the trigger will continue to move after it breaks and fires the shot) as shown in figure 22. When using the hex wrench provided with the trigger, you don’t need to do any disassembly of the pistol in order to make adjustments to it. I recommend setting the pre-travel adjustment first. Tightening the screw will reduce the distance the trigger moves before breaking; try tightening it in small increments until the trigger pull feels the way you want it to. If you tighten it too far and the trigger doesn’t reset after you rack the bolt, back the screw out some and try again. This is probably going to be very much a trial-and-error procedure.
Once the pre-travel is set, tighten the overtravel screw until it stops the trigger’s rearward motion immediately after the hammer falls. The goal here is to try to eliminate, as much as possible, extra trigger movement when you squeeze off. You’ll probably have to play around with this one some, too, until you get it right.

When you’ve got the trigger adjusted just the way you like it, it’s a good idea to use a little bit of Loctite to secure the two screws in place. Then go to the range, show off your cool modified pistol to all your buddies, and see how much your groups have improved.

If you’re one of those who like to see things on video, Clark Custom Guns has an excellent DVD on disassembly/reassembly of the Ruger Mark I/II/III and 22/45 series of pistols. It goes into great detail on all the steps listed above.

Have fun!